York University Senate
Notice of Meeting

Thursday, 26 January 2023, 3:00– 5:00pm
Via videoconference

AGENDA

York University Senate

12. Changes to degree requirements for the Master of Management in Artificial Intelligence, Schulich School of Business (Appendix B, p. 147)

13. Changes to degree requirements for the Master of Business Analytics, Schulich School of Business (Appendix C, p. 157)

14. Changes to degree requirements and reduction in number of credits of the Faculty-wide "in/out" of the major requirements for the BFA program in Music, AMPD (Appendix D, p. 168)

15. Changes to degree requirements for the BA and BSc degree programs and the Minor degree option in Psychology, Faculty of Health (Appendix E, p. 176).

P. Robichaud, Secretary

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PRESIDENT'S KUDOS REPORT

JANUARY 2023

Header photo: Amy Brathwaite / @amybrathwaite

York alumnus, the Honourable Michael H. Tulloch (BA '89, LLB '89), was appointed as the new Chief Justice of Ontario and President of the Court of Appeal for Ontario. In 2012, Tulloch became the first Black Canadian to sit on a provincial appellate court in Canada. Chief Justices and Associate Chief Justices in Canada are responsible for the leadership and administration of their courts. They also serve as members of the Canadian Judicial Council, which works to improve the quality of judicial services in the superior courts of Canada.

Photo: Amy Brathwaite

Photo: Supreme Court of Canada

York alumna Birgit Uwaila Umaigba (MEd '18, BScN '16) received The Doris Anderson Award for being a voice for Canadian nurses who are on the front lines of pandemic care. A second York Alumna, Michelle O'Bonsawin (LLM '14), the first Indigenous justice named to the Supreme Court of Canada in August 2022, was given an honorable mention for being a champion of Indigenous oppression. In 2021, Chatelaine magazine renamed their annual Women of the Year honours to celebrate Doris Anderson, who began as the magazine's senior editor in 1957. Over the course of her 20-year tenure as editor of the magazine, Anderson became well-known for her her tenacity, grit and determination. Anderson published features on abortion, birth control and reproductive rights, equal pay, universal childcare and more, long before many of these topics were covered by other forms of media. Anderson died in 2007, the awards commemorate her enduring legacy.

Collette Murray, a graduate program assistant in the Faculty of Graduate Studies and Critical Disability Studies in the Faculty of Health, was named among six recipients of the 2022 Women Who Rock Awards and one of six changemakers for racial equity as the recipient of the 2022 Award for Racial Justice in Creative Arts presented by Urban Alliance on Race Relations. Murray was recognized for her efforts in cultural education, and amplifying Black arts and diasporic styles of African dance vernacular. Murray is an artist-scholar, dance educator and cultural arts programmer with a performance background range in Caribbean Folk, traditional West African, and other diasporic dance styles with past Toronto-based companies.

David Hazell, of the York University English Language Institute (YUELI), is the recipient of the Sparks of Excellence Award from the Teachers of English as a Second Language Association of Ontario (TESL). The award recognizes the "excellence and commitment of TESL Ontario members who provide outstanding educational experiences to their students or who demonstrate exceptional leadership/mentoring expertise towards their colleagues and student teachers in a manner that goes above and beyond the day to day duties of their job." Hazell joined York in 2021 and is the program manager of English for academic purposes at YUELI, where he manages the academic program assisting international students in their pathway to degree programs at York University.

Faculty of Science Associate Professor in the Department of Biology, Sapna Sharma, received the 2022 Supervisor of the Year award from the Faculty of Graduate Studies (FGS). FGS bestows the award annually upon an individual who has demonstrated outstanding support for postdoctoral scholars at York University, exceeding general supervisory expectations. Sharma consistently went above and beyond her expected supervisor role, supporting the members of her lab, Sharma Lakes, by advocating for their personal, as well as professional, career development. This dedication was especially crucial within the context of the global pandemic and its impact on mental, financial and overall well-being.

After only one year at York, Marissa Largo, assistant professor of creative technologies in the School of Arts, Media, Performance & Design, took home two awards this November at the 2022 Galeries Ontario/Ontario Galleries Awards gala. Largo won the Exhibition Design and Installation (Budget over $20,000) award for her curatorial project at the Varley Art Gallery of Markham, *Elusive Desires: Ness Lee + Florence Yee*. Largo also took home the award for Curatorial Writing, Text Between 2,000 and 5,000 Words, for her essay about the show, "Elusive Desires: Queer Feminist Asian Diaspora and Suburban Possibilities." She was also a finalist for Best Exhibition, Budget over $20,000 (Thematic).

University Professor Dawn Bazely in the Faculty of Science joins the ranks of illustrious Canadians like Nobel Laureate John Charles Polanyi and astronaut Chris Hadfield as the recipient of the 2022 Sandford Fleming Medal for excellence in science communication from the Royal Canadian Institute for Science. The selection committee was unanimous in its decision, noting Bazely's impressive, diverse range of activities as a science communicator and activist for more than 30 years.

New research by a team of chemists at York University comprised of Banting Fellow Vasily Panferov and postdoctoral Fellow Nikita Ivanov and led by Distinguished Research Professor Sergey Krylov in the Department of Chemistry, has now addressed the limitations of current rapid antigen tests, reducing the potential for false-negative results. The research team invented an enhancement step for lateral flow immunoassay technology, whereby the sensitivity is increased by 25 to near 100 per cent. This step could be performed by an untrained person, in a matter of two minutes.
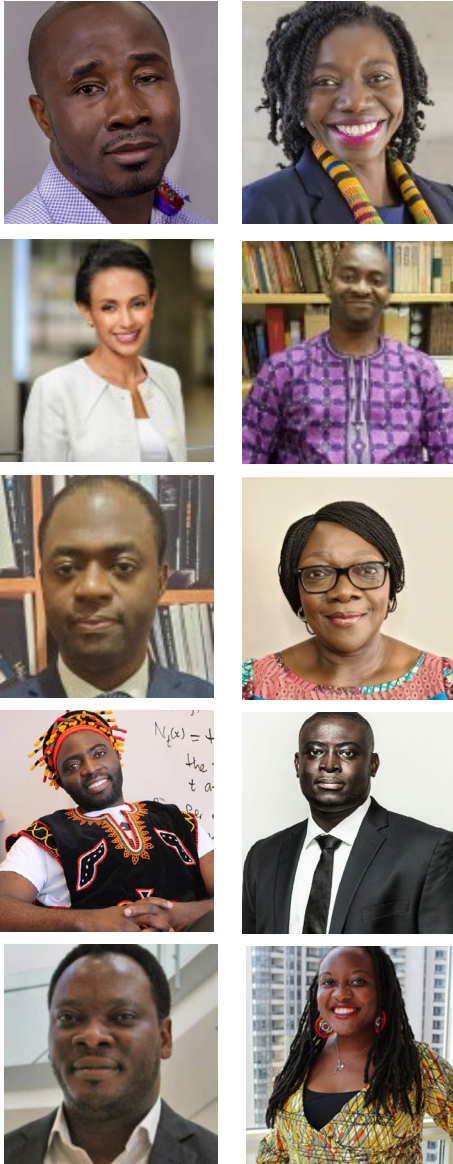
A group of professors affiliated in various ways with York University's African Studies Program join forces to create a unique, interdisciplinary research cluster focusing on adaptive knowledge, response, recovery and resilience in transnational Black communities. The Overcoming Epidemics: Transnational Black Communities' Response, Recovery and Resilience cluster was born in response to a call from the vice-president, research and innovation to accelerate interdisciplinary research with a focus on United Nations Sustainable Development Goals around key institutional strategic initiatives. The group is currently working in partnership with the Black Creek Community Health Centre in Toronto and leveraging ongoing collaborations to consolidate/establish research partnerships around Africa. Memebers include:

- Mohamed Sesay, LA&PS Professor
- Sylvia Bawa, LA&PS Professor
- Mary Goitom, LA&PS Professor
- Uwafiokun Idemudia, LA&PS Professor
- Nathanael Ojong, LA&PS Professor
- Gertrude Mianda, Glendon Professor
- Jude Kong, Faculty of Science Professor
- Solomon Boakye-Yiadom, Lassonde Professor
- Professor Oghenowede Eyawo, Faculty of Health
- Oyemolade Osibodu, Faculty of Education Professor

York Research & Innovation launched the inaugural issue of ASCEND Magazine - Ideas for Positive Change. ASCEND Capstone Magazine is a bi-annual magazine designed to showcase cutting-edge research and innovation activities in which York's students, faculty, alumni, and staff are engaged. York is an international leader in research output, the recipient of countless research awards and accolades, and the creator of thriving innovation units. The magazine will reflect York's commitment to ensuring that our research efforts drive positive change through the sharing and application of our work.

Jennifer Neilson, head coach of York University Lions women's volleyball program since 2018, was named the new head coach of Team Ontario's indoor volleyball program for the 2025 Canada Summer Games in St. John's, Newfoundland. Neilson has coached at all levels of the Canadian high-performance pathway. Prior to joining the Lions, Neilson had a heavy involvement with the Ontario Volleyball Association.
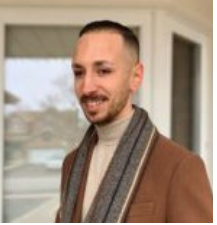
The annual School of Public Policy and Administration Student, Alumni and Community Recognition Awards ceremony was held at the end of November, focusing on the importance of leadership and resilience in public service while dealing with the ever-present effects of the pandemic. Award recipients included:

- Orelie Di Mavindi (MPPAL '19), Foster Greene Award
- Marc Rondeau, Practicum Honouree Award
- Rushell Dissanayake (BPA student), Practicum Excellence Award
- Rean Pelayo (BPA student), Practicum Excellence Award
- Udoka Achilike, Lorne Foster Award in Public Policy
- Roberto DiGiovanni, Undergraduate Student Award
- Kiersten Allore-Engel (MPPAL '20), Emerging Leader Award.
- Paula Tablon Modica, Graduate Student Award
- Jennifer Holmes Weier, The Best Major Research Paper Award
- Asare Kester-Akrofi (MPPAL '20), The Alumni Recognition Award

The Justice Studies Center of the Americas (JSCA) elected Professor and York Research Chair in Pluralism and Public Law at Osgoode Hall Law School, Benjamin Berger, as vice-president for the period 2023-2024. JSCA is an intergovernmental body of the Inter-American System with technical and operational autonomy, created by the OAS General Assembly in 1999, whose mission is to support the processes of reform and modernization of justice systems in the Americas.

TIARA owner and ELLA participant Zuly Matallana was selected as the one of the Top Female Entrepreneurs To Look Out In 2023 by *The NYC Journal*. Matallana has been recognized internationally for her drive to transform the way women care for their hair, while reducing single-use plastics, which led to the creation of TIARA shower caps. She was a participant of York University's ELLA program, Ontario's first accelerator focused on supporting women-led product and service-based businesses.

Two YSpace startup companies, Mero Technologies Inc. and Able Innovations Inc., were selected as two of eight companies to receive $14 million in funding from the Minister of Federal Development. As a result of this investment, these companies will be able to grow digital and manufacturing solutions, move towards green operations, enhance data in healthcare settings and improve monitoring and tracking software, while also creating over 230 jobs across the greater Toronto area.

Linda Peake, professor in the Faculty of Environmental and Urban Change and director of the City Institute, was awarded the American Association of Geographers' Lifetime Achievement Honors for her scholarly contributions to feminist and urban geographies, and for a career dedicated to extending equity, diversity and inclusion at her institution and across the discipline of geography. Peake's four decades of scholarship have spanned feminist, social and urban geography, studies of race and racism, and mental health.

Marketing News Canada named associate professor of marketing at Schulich School of Business, Ela Veresiu, as one of 2022's Top 10 PR, Marketing and Communications Professors & Instructors in Canada. Marketing News Canada began a search for the top professors and instructors across the country to acknowledge the importance and growth of women in educational positions across Canada.
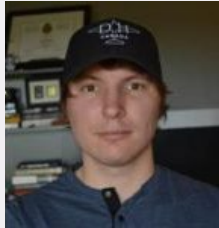
The winners of the Lassonde School of Engineering's second annual Research Photo Contest have been announced. Hosted by the Research Office, with the support of the Planning, Academic Resources & Research (PARR) Committee, this contest aims to promote Lassonde research projects and successes both within and beyond the School. The winners are:

- First Place & People's Choice Award: Preparation For Observation Night by Randa Qashoa and Michael Stewart, Master's students, Nanosatellite Research Lab, Earth and Space Science and Engineering.
- Second Place: Dendrite Structures in Organic Electrochemical Transistors, by Mohammad Nazeri, Master's student, Electrical Engineering and Computer Science.
- Third Place (tied): Before Take Off!, by Sogand Talebi, Master's student, Earth and Space Science and Engineering; and Smiling printed electrode "don't worry, be happy", by Milad Ghalamboran, PhD candidate, Electrical Engineering and Computer Science.

Nigerian lawyer and Assistant Professor at Canada's Osgoode Law School, Rabiat Akande, has announced that she will be launching an African International Legal History Initiative at the African Institute of International Law with the support of a fellowship and generous grant award from the Gerda Henkel Foundation and the African Union.

Lassonde School of Engineering announced the recipients of the Fall 2022 BEST Entrance Award. This award recognizes students for their entrepreneurial initiatives, including leadership pursuits and/or involvement in enterprising activities at their high school, and is awarded to incoming students at the Lassonde School of Engineering. The Fall 2022 Best Entrance Award recipients are:

- Hannah Alli, Engineering
- Sagar Saha, Computer Science
- Jayant Punia, Software Engineering
- Amely Su, Engineering
- Toby Carter, Computer Science
- Carlos Santiago, Engineering
- Shiza Shaikh,Computer Science
- Behrouz Homam, Mechanical Engineering
- MD Faiaz, Software Engineering
- Dylan Gauvin, Computer Science
- Ayyn Mohammed, Computer Science
- Joshua Mullin, Space Engineering
- Rishit Shah, Computer Science
- Umer Shaikh, Engineering

Four graduate students at York University's Dahdaleh Institute for Global Health Research, Eric Asempah, Hillary Birch, Yuliya Chorna and Nilanjana Ganguli, presented their global health research, share more about their research journeys and discuss their progress during the third annual Global Health Graduate Scholars Symposium. The Dahdaleh Institute supports graduate research and scholarly and creative activities in line with the three themes of the Institute – planetary health, global health and humanitarianism, and global health foresighting – at York University. The Dahdaleh Global Health Graduate Scholarship was created to attract exceptional incoming and continuing domestic and international graduate research students to the Dahdaleh Institute for Global Health Research. The scholarship is granted annually to graduate students who demonstrate outstanding academic achievement in global health research.

Felicia Mings, curator at the Art Gallery of York University, has received a prestigious Curatorial Research Fellowship from The Andy Warhol Foundation for the Visual Arts. Over the next year, Mings will embark on a new research project focusing on the work of influential Guyanese artist, anthropologist and novelist Denis Williams (1923-98). The project will examine the international significance of Williams' practice through an analysis of the artist's illustrative works and their relationships to African and Caribbean literature. The Andy Warhol Foundation for the Visual Arts mission is the advancement of the visual arts. The foundation manages an innovative and flexible grants program while also preserving Warhol's legacy through creative and responsible licensing policies and extensive scholarly research for ongoing catalogue raisonné projects.
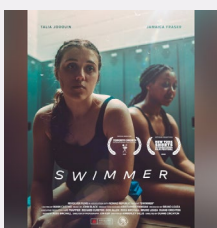
Talia Jodouin, a first-year film and media studies student at York University from Timmins already has her first starring film role. Jodouin plays Kai in "The Swimmer", which was recently at the Toronto Short Film Festival and is heading out on the short festival circuit, including the New York Shorts festival in early 2023.
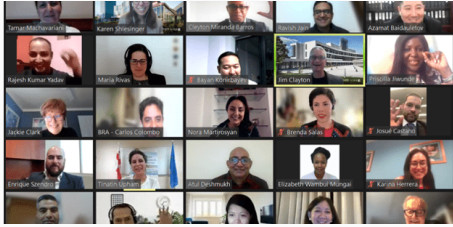
The graduation of the 2022 cohort of the Sustainable Infrastructure Fellowship Program (SIFP) was celebrated on December 15th, 2022. The Fellows are Emerging Market senior government and agency officials, representing 18 countries globally. Notably, the 2022 cohort included a Fellow representing the Indigenous Communities of Canada, Government of Nunavut, in recognition of the Indigenous Infrastructure Gap. The graduates are awarded the prestigious Masters Certificate in Sustainable Infrastructure Development and Finance from the Schulich School of Business, York University, for completing the intensive Sustainable Infrastructure Fellowship Program.

Tracey Taylor-O'Reilly, assistant vice-president, Continuing Studies, is leaving York university to take on the role of president & chief executive officer at Pathways to Education Canada, a national organization that works to create positive social change by breaking the cycle of poverty through education. She will be wrapping up her responsibilities at York the week of February 17, 2023. Recognized for her leadership, the success of the School of Continuing Studies and her response during the pandemic, in 2021 Ms. Taylor-O'Reilly was honoured with the WXN Top 100 Most Powerful Women in Canada award and with a Stevie award as the global Female Executive of the Year in the large government and non-profit category. We wish her well as she moves on to her new leadership role.

Associate Professor Sarah Barrett is the recipient of the 2022 Faculty of Education Dean's Research Impact Award (Established stream). The Dean's Research Impact Award is awarded annually to a tenure stream member of the Faculty of Education in the Emerging and Established scholar streams, whose sustained programs of research displayed significant impact, broadly defined and relative to their career stage. Barrett's nominator's highlighted that they were particularly moved by her recent report, *Emergency Distance Education during the COVID-19 Pandemic*, highlighting that it is one of the first of its kind to offer a comprehensive analysis of teachers' experiences at one of the most difficult times in the profession.

Lauren Castelino, Masters of Environmental Studies candidate at York University with a specialization in Business Sustainability & Social Change was named a Top 25 Under 25 Environmentalist by *The Starfish*. This award is given to remarkable environmentalists across the country. Castelino was recognized for her work as the Co-Executive Director of Regenesis, one of Canada's largest student-led environmental organizations and the founder of one of its recently acquired initiatives, the Green Career Centre. Over more than four years, Lauren has reached thousands of youth through developing environmental entrepreneurship programs and sharing green career development resources.

Team Schulich finished in First Place in Academics at 2023 MBA Games. Graduate students competed at the 35th annual MBA Games, hosted in-person by the Schulich School of Business. Considered the largest MBA competition in Canada, this year's three-day competition featured 14 teams representing leading business schools from across the country competing in Academic, Athletic and Spirit challenges for the coveted Queen's Cup. Under the strong leadership of Meenakshi Kukreja (MBA '23), Team Schulich performed consistently across all categories. Team Schulich finished in third place overall, ending up first in Academics and third in Spirit.

Executive Committee – Report to Senate

At its meeting of 26 January 2023

FOR INFORMATION

a. Senate Membership 2023-2025

The Executive Committee is continuing to discuss the membership of Senate to determine the allocation of seats for the 2023-2025 period. Various models are being reviewed to integrate representation on Senate from the Markham campus, scheduled to launch in 2024. Senate Executive is consulting the four Faculties that will be offering academic programs at the campus (AMPD, LA&PS, Lassonde and Science) to receive their input on the options for providing for elected representation of Markham-based faculty members and students.

The notice of motion to Senate and final recommendation on the 2023-2025 Senate membership are planned for the March and April meetings of Senate respectively.

b. Mode of Senate Meetings

Arrangements are being undertaken to deliver the next meeting of Senate on 16 February 2023 in a hybrid mode. Confirmation of the meeting details will be provided on the February Senate agenda.

Poonam Puri, Chair
Lauren Sergio, Vice-Chair

Academic Policy, Planning and Research Committee

Report to Senate

At its meeting of 26 January 2023

FOR ACTION

a. **Senate Policy on Indigenous Research Involving Human Participants**

The Academic Policy, Planning and Research Committee recommends,

That Senate approve the establishment of the *Senate Policy on Indigenous Research Involving Human Participants,* effective 1 July 2023, as set out in Appendix A.

Rationale

The [Senate Policy on Research Involving Human Participants](#) and its associated *Human Participants Review Committee* (HPRC) were established over two decades ago as the legislation and decision body governing the independent, multi-disciplinary review and approval of all research proposals at the University involving humans. Researchers' experience with the HPRC process has made it clear that it needs to work in a more a meaningful way for Indigenous and non-Indigenous researchers, one that is underpinned by Indigenous-specific knowledges and leadership within research supports.

There is a need to foreground the voice and needs of Indigenous communities within Indigenous research, to recognize the distinct Indigenous knowledges and approaches to research that may involve Indigenous Peoples (First Nations, Inuit, and Métis) and to ensure that appropriate sensitivity to cultural and community rights, roles and responsibilities is applied to all research projects conducted under the auspices of York University. The establishment of the proposed *Policy on Indigenous Research Involving Human Participants* policy and the autonomous Indigenous Research Ethics Board (IREB) fulfills these needs.

The IREB, on behalf of the institution, is mandated to review all Indigenous human participant research conducted at the University with authority to approve, reject, propose modifications or terminate any proposed or ongoing research involving humans[1]. It will also serve the critically important function of providing education to the broader York community about research ethics, advice, and mentorship to York researchers from conceptualization of research through to its completion and dissemination. This latter role of the IREB will be provided in collaboration with the Office of Research Ethics, the Research Commons, the Indigenous Council and the (new administrative position of)

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[1] An an Ad Hoc appeals body will be established to review requests for reconsiderations of decisions following IREB's procedures.

Academic Policy, Planning and Research Committee
Report to Senate

Indigenous Research Officer. APPRC commends the education function as a valuable contribution that will enhance supports for and advance inclusive scholarship.

The creation of a stand-alone, wholly autonomous Indigenous Research Ethics Board will change the way the University thinks about and does research ethics. York will be the first university in Canada to establish an Indigenous research ethics policy and review body. The Senate Policy and the associated procedures were developed by an ad hoc working group in conjunction with the Indigenous Council and the Office of Research Ethics, and are the product of comprehensive consultation with key stakeholders at the University, including the Vice-Presidents Research and Innovation and Equity, People and Culture. The policy and mandate of the IREB conform with the requirements and expectations stipulated in the *Tri-Council Policy Statement on Research Involving Human Participants (2022).* Like the current HPRC, the IREB will report annually to the Senate Academic Policy, Planning and Research Committee, the latter bringing oversight to the research review process.

A statement of support from the Vice-President Research and Innovation confirms the necessary resources will be provided to implement and sustain the IREB and its various forms of support and activities.

The establishment of the Senate Policy and the new ethics review board are actions that advance the fulfillment of the University's **Statement of commitment to the Indigenous Framework and decolonizing research**. Specifically, it seeks to remove "barriers rooted in deep colonial policies and practices that govern research administration and in many ways conflict with Indigenous research methodologies." The new policy also supports the advancement of the strategic priorities of the institution, including research intensification.

Supporting documentation, including the Vice-President's statement of support, is attached as Appendix A.

Approvals: APPRC (19 January 2023).

FOR INFORMATION

b. Consultation with Senate: Research Data Management Strategy.
A matter applicable to all universities in Canada going forward is the need to establish an institutional research data management strategy to align with the requirements of the *Tri-Agency Research Data Management Policy.* York University Libraries has prepared the draft Strategy for York; it is attached as Appendix B to this report. The draft was reviewed with APPRC at its meeting earlier this month at which members provided reflections and advice. Given the important role this new requirement plays in Tri-Council research funding processes, education about the Strategy is critical for the York community. To that end APPRC is facilitating consultation with Senate on the document.

Academic Policy, Planning and Research Committee
Report to Senate

Dean Kirchner, Andrea Kosavic, Associate Dean, Digital Engagement and Strategy, and Jennifer Steeves, Associate-Vice President Research will speak briefly to the draft Strategy at the Senate meeting, and will facilitate a discussion with Senators to gather input necessary to finalize the Strategy by the Tri-Council deadline of 1 March 2023; a copy of the presentations accompany the Strategy in the APPRC appendix.

c. Establishment of an APPRC-ASCP Task Force on the Future of Pedagogy

APPRC and ASCP are establishings a joint Task Force on the Future of Pedagogy. The mandate of the Task Force is to re-examine the *2020-2025 University Academic Plan* priority on "21st Century Learning: Diversifying Whom, What, and How We Teach" in light of learnings from the shift to online delivery of programming during the COVID-19 pandemic and pedagogical reform initiatives currently underway in academic units to make high-level recommendations on teaching and learning plans for the University. Universities across the Province are engaging in the exercise of re-defining their pedagogy plans. York needs to articulate a teaching and learning agenda that will advance its distinctive vision, core values and academic goals. The mandate and composition of the task force will be finalized shortly by the two Senate committees.

The future of pedagogy at the University was a focused priority for APPRC last year, and the goal this year - through the task force - is to build on the work done. The 2022 APPRC academic planning forum examined the question of how the University should pursue inclusive excellence within our curriculum and teaching in view of the innovations in pedagogy that have advanced our physical and virtual capacity for learning. The experimentation with online program delivery necessitated by the pandemic highlighted both the possibilities for pedagogical innovation to explore further and confirmed that this is a critical area to be mined to inform University and Faculty teaching plans going forward.

A Call for *Expressions of Interest* to serve on the task force is expected to be issued this month.

d. APPRC 2023 Academic Planning Forum
Each year, APPRC hosts a planning forum for the University community centred on the University Academic Plan. The assembly is an opportunity to obtain input from the community on critical planning matters. These fora are typically organized around either a specific focus in the UAP, a key theme that ties together major academic initiatives in development, an overarching University goal, or an institutional planning process more generally. The outcome sought is usually to create an action plan or to define the path forward for the issue presented.

The 2023 APPRC open forum will be held on **Thursday, 2 March 2023** (likely a morning session; time to be confirmed). With the Markham campus launching in 2024, the focus of this year's forum will be on York's emergence as a multi-campus University. This theme

spans both research and teaching as well as community engagement. The focus of the topic will be identifying steps that can be taken to connect all of York's campuses to each other and to their surrounding communities to advance the priorities set out in the UAP.

Senators are asked to take note of the date at this time. Additional information on the forum will be shared by APPRC in the coming weeks.

e.   Strategic Repositioning of Glendon

The Provost provided a brief progress report on the strategic review process underway to renew and reposition Glendon's academic offerings in the current post-secondary environment. Two concrete initiatives have emerged from the revisioning exercise and are being considered within the Glendon community. The first is defining a standard degree format for programs based at Glendon and thereafter conducting a review of the existing degree programs and curruciulum to align with the new degree format and renewed value proposition of the College. This plan has the dual advantage of amplifying the strengths and distinctiveness of Glendon and creating improved pathways to degree completion for students. The second initiative under consideration is a revised administrative structure for Glendon; the options under review are a non-departmentalized model or reducing the number of current departments to a small number of administrative units (departments / schools) around disciplinary or interdisciplinary lines. Adopting a structure that is better suited to the size and culture of Glendon will help address barriers and enhance fiscal sustainability.

Once the plans for these two initiatives are fleshed out, earlier plans developed by faculty members on a defined set of Glendon core curriculum and revisioned bilingualism options can be integrated with the new degree model and administrative structure to collectively carve the path towards renewal and sustainability. Having the revised programming ready for implementation in the 2024-2025 academic year is the goal. These exercises are complex and lengthy, and APPRC learned that challenges are being experienced with the need to collectively move forward the individual components of the revisioning exercise when some are at later decision stages than others. Concerted effort and good supports are needed to sustain momentum, reach decisions, and move the necessary proposals through the governance processes to meet the planned timelines.

APPRC will continue to engage in discussions about this important initiative and report to Senate.

Michael Moir
Chair of APPRC

University Policy/Procedures/Guidelines

Indigenous Research Involving Human Participants

Topic:	Research: Compliance with external legislative frameworks
Approval Authority:	APPRC and Senate
Approval Date:	TBC
Effective Date:	1 July 2023
Last Revised:	

1. Purpose

1.1. It is the policy of York University to ensure the ethical conduct of research involving human participants and to comply in full with the *Tri-Council Policy Statement on Research Involving Human Participants (*DATE) as it may be amended from time to time. The University has two separate and distinct policies that govern its research involving Human Participants:

- The Senate Policy on Research Involving Human Participants

- The Senate Policy on Indigenous Research Involving Human Participants

1.2 In recognition of distinct Indigenous knowledges and approaches to research that may involve Indigenous Peoples (First Nations, Inuit, and Métis) and to ensure that appropriate sensitivity to cultural and community rights, roles and responsibilities is applied to all research projects conducted under the auspices of York University, the Policy on Indigenous Research Involving Human Participants and an autonomous research ethics review board have been established to govern the review of all research involving Indigenous Peoples. Since the establishment of research ethics boards (REBs) across Canada, the research ethics process has become a required but transactional relationship in which researchers merely submit a protocol for review, revisions, and approval; most REBs have limited engagement in the actual research process. Given the need to foreground the voice and needs of Indigenous

communities[1] within Indigenous research, the Indigenous Research Ethics Board (IREB) at York is available to engage with researchers throughout the entire research process, including meeting with and providing advice with regards to emerging issues at the intersection of indigenous research and ethics compliance. (The IREB is supported by the Office of Research Ethics)

Review by the University's Indigenous Research Ethics Board applies to all Indigenous research conducted under the auspices of York University; for all other research conducted at the University, the [Senate Policy on Research Involving Human Participants](#) and its associated [Human Participants Review Committee](#) (the HPRC) apply.

1.3 The IREB serves the York research community in at least the following ways:

   a. by contributing to the education of its members and the broader York community about research ethics;

   b. by acknowledging and promoting the inclusion of expertise from traditional knowledge keepers;

   c. by acknowledging and promoting the aim that research should have positive impacts, and repair and reconnect community relationships;

   d. by creating relational accountability of research by establishing relationships between the communities in which they serve and York University;

   e. by acknowledging the interdependence of humans and the natural world and spirit world, and the responsibility that all people have to those relationships;

   f. by engaging with researchers and applying an indigenous lens to questions of research ethics as they may arise throughout the entire research process

   g. by conducting independent, multi-disciplinary review of research proposals that meet all national requirements; and

   h. by overseeing the ethics review processes delegated to and conducted by Faculty, Department, School, and Graduate Program review bodies.

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[1] Indigenous Communities – describes a group of people with a shared identity or interest that has the capacity to act or express itself as a collective. In this Policy, a community may include members from multiple cultural groups. A community may be territorial, organizational, or a community of interest. "Territorial communities" have governing bodies exercising local or regional jurisdiction (e.g., members of First Nations who reside on reserve lands). "Organizational communities" have explicit mandates and formal leadership (e.g., a regional Inuit association or a friendship centre serving an urban Indigenous community). In both territorial and organizational communities, membership is defined and the community has designated leaders. "Communities of interest" may be formed by individuals or organizations who come together for a common purpose or undertaking, such as a commitment to conserving a First Nations language. Communities of interest are informal communities whose boundaries and leadership may be fluid and less well- defined. They may exist temporarily or over the long term, within or outside of territorial or organizational communities.

An individual may belong to multiple communities, both Indigenous and non-Indigenous (e.g., as a member of a local Métis community, a graduate students' society and a coalition in support of Indigenous rights). An individual may acknowledge being of First Nations, Inuit or Métis descent but not identify with any particular community. How individuals define which of their community relationships are most relevant will likely depend on the nature of the research project being proposed.

2. Scope and Application

2.1. Research Involving Indigenous Peoples

   a. The policy shall apply to all Indigenous research involving human participants including their lands, materials, human remains, cadavers, tissues, biological fluids, embryos, and fetuses and researchers in all Faculties and the University Libraries conducting such research. The policy is intended to protect Indigenous Peoples and communities, the researcher and/or principal investigator, individual participants, and the University jointly and collectively; it seeks to protect all parties to the research endeavour.

   b. The following Policies, Procedures and resources support the Senate Policy on IREB: Research Involving Indigenous People for access to ethics review processes, Researcher Toolkit, IREB protocol forms, IREB ICF and guidelines as they relate to research involving Indigenous Peoples. These resources are accessible on the Office of Research Ethics website.

2.2. Confidentiality

All information provided by Principal Investigators and other researchers is confidential and shall be retained in the Office of Research Ethics on that basis to the fullest extent possible by law.

2.3. Research Not Covered by This Policy and Procedures

Any research activity for which this policy is silent (such as clinical trials, research involving human biological materials and/or human genetic research), the relevant sections of the current [Tri Council Policy Statement](#) (2022; TCPS) shall be relied upon for guidance. Alternatively, researchers may consult with the Office of Research Ethics for advice and direction

3. Definitions

3.1. For the purpose of this policy and its associated procedures, and in accordance with the [Tri-Council Policy Statement](#) (2022):

   a. 'research' is defined as any undertaking intended to extend knowledge through a disciplined or systematic investigation and it includes pilot or preliminary research that involves human participants;

   b. Indigenous Peoples includes First Nations, Inuit, and Métis Peoples located within Canada. In this context, the term "Indigenous Peoples" typically refers to persons of Indian, Inuit or Métis descent, regardless of where they reside and whether their names appear on an official register. Self-identification is a fundamental criterion for defining Indigenous Peoples. The term "Indigenous"

does not reflect the distinctions among First Nations, Inuit and Métis peoples, who have their own histories, cultures and languages, so an attempt has been made to limit use of the term in this Policy to instances where a global term is appropriate. Indian peoples commonly identify themselves by distinct nation names such as Mi'kmaq, Dene or Haida, and as First Nations;

c. 'human participants' are persons who provide data or information to the researcher, who are not acting in their professional capacity, but as subjects in the public domain;

d. 'researcher' and/or 'Principal Investigator' includes:

    i. any research affiliated with York University who conducts or advances the creation or dissemination of new knowledge with, for, or about Indigenous persons in a capacity that accesses University students staff, faculty or any other human participants;

    ii. any other person who conducts or advances research and is connected with the University; this includes people affiliated with universities receiving research funds from York;

    iii. any person who conducts research using University resources (whether research space, materials, equipment, or human resources).

e. The term "member" when used in this Policy and its accompanying procedures includes Indigenous Elders, Indigenous community members, faculty, emeritus faculty, contract faculty, staff, administrators, students, visiting or adjunct scholars, fellows and chairs, and any research associates or assistants, whether paid or unpaid.

4. Policy and Guidelines

4.1. Policy Statement

It is the policy of York University to ensure the ethical conduct of Indigenous research involving human participants and to comply in full with the [Tri-Council Policy Statement on Research Involving Human Participants](#) (2022) as the Tri-Council policy may be amended from time to time.

4.2. Principles and University Commitments

Researchers are obligated to strive for ethical conduct at all times in relation to their research. This IREB policy underscores the importance of a distinctly Indigenous ethics process that reviews all research with, by, for and about Indigenous Peoples at York. The Senate of York University affirms that all researchers must respect the safety, welfare, and dignity of human participants in their research and treat them fairly, and not as a

means to an end. The University values and protects the academic freedom of its researchers. The ethics review process shall not unfairly censor researchers in the conduct of their research. However, academic freedom is conditional on all researchers respecting the rights and well-being of human participants. The IREB allows for Indigenous approaches, knowledges, and histories to bear on these ethical review processes.

This policy acknowledges the need for ongoing change and refinement of applicable policies to be accountable to Indigenous knowledges, languages, and Peoples, as well as changes in research ethics, methods, and contexts. Ethical guidelines shall be respected and revised as necessary. Continued awareness and debate of the topic in the research community is essential.

The University's principal reference for ethics review is the [Tri-Council Policy Statement (TCPS)](), with which the University has agreed to comply pursuant to the Memorandum of Understanding (September 2002) between the University and the three funding agencies that make up the Tri-Council.

5. Roles and Responsibilities

5.1. Review by the University's Indigenous Research Ethics Board applies to all Indigenous research as defined above; for all other research, York's research ethics board, known as the Human Participants Review Committee (the HPRC) applies.

Similar to the HPRC, the IREB is a sub-committee of the Academic Policy, Planning and Research Committee (APPRC) of Senate. The IREB is charged with reviewing the ethical acceptability of all Indigenous research involving human participants conducted by members of the University, and with carrying out the procedures within its jurisdiction or under its auspices. All research involving human participants conducted by faculty, staff or students, regardless of where the research is conducted, is subject to review and approval by the relevant research ethics board (REB) in accordance with the most recent Tri-Council Policy Statement prior to the commencement of any research activities. The IREB composition, mandate, and operations shall conform to the specifications set out in the procedures that accompany this policy.

5.2. IREB shall report at least annually to the Academic Policy, Planning and Research Committee of Senate. APPRC shall, in turn, transmit reports to Senate and make them accessible.

5.3. The primary responsibility of the IREB is to ensure, through the review and approval of research ethics protocols, that researchers respect the safety, welfare, dignity, rights and diversity of human experience and participants in their research and treat them equally and fairly and not as a means to an end.

5.4. The IREB shall discharge the following specific duties:

   a. engage with researchers by providing advice and guidance as it speaks to the submission of a research ethics protocol by applying an indigenous lens to questions of research ethics as they may arise throughout the entire research process;

   b. conduct ethics reviews within the context of the University's responsibility to ensure that the research meets high scientific and scholarly standards. All research involving Indigenous Peoples - student, staff, faculty or external researchers - shall fall under the purview of the IREB for the purposes of review and approval. Only the IREB has the authority to review Indigenous research involving human participants;

   c. terminate any research that it considers to be threatening or causing distress to the participants, deviates from the approved Protocol, or has not been approved by the appropriate body;

   d. provide Faculties and Libraries with the resources necessary to enable them to become familiar with and adhere to this Senate Policy;

   e. act as an advisory body for the University, educating the community on ethics in research and providing guidance on the ethics review policy, processes and procedures;

   f. provide resources (outreach and education) to the Faculties and Libraries so as to enable them to provide the necessary education and advice to research assistants and students about the relevant aspects of ethics in Indigenous research and the need to treat participants ethically and respectfully.

6. Review

This policy will be reviewed by the Office of Research Ethics one year after implementation, and then every five years going forward. During the review, the policy will remain in full force and effect.

7. Procedures - See Appendix (attached)

8. Funding for IREB Operations

7.1. Through both financial and in-kind support from the Office of Research Ethics and the Associate Vice-President Research, the IREB shall have the requisite financial and administrative support (including the funding of at least three traditional knowledge keepers) to ensure that it has both the autonomy and resources to fulfill its responsibilities.

Legislative history:	Approval by APPRC (pending); Approval by Senate (pending)
Date of next review:	2023-2024
Policies superseded by this policy:	N/A
Related policies, procedures and guidelines:	Senate Policy on Research Involving Human Participants

APPENDIX: Procedures Governing the Indigenous Research Ethics Board (attached)

Procedures Governing the Indigenous Research Ethics Board

1.1 Research Ethics Board and Governance Framework

An appropriate and compliant governance structure is a fundamental element of any effective ethics review policy and process. The governance structure ensures that the relevant Research Ethics Board (REB) operates with a clear mandate, authority and accountability, within clearly defined responsibilities and with the institutional independence necessary to undertake their decision-making processes appropriately and effectively. York University has two university wide REBs – the IREB and the HPRC. The Indigenous Research Ethics Board – the IREB – reviews ALL research involving Indigenous Peoples; this includes all student and faculty-led research. The York University Research Ethics board – the HPRC – reviews ALL non-Indigenous research. York University's Research Ethics Boards – IREB and the REB are sub-committees of the Academic Policy, Planning and Research Committee of Senate.

1.2 Overall Mandate of the IREB

The IREB, on behalf of the institution, is mandated to review all Indigenous human participant research including approving, rejecting, proposing modifications to or terminating of any proposed or ongoing research involving humans. Additionally, upon request of individual researchers, it will engage with researchers throughout the entire research process, including meeting with and providing advice from conceptualization of research through to its completion and dissemination. This mandate extends to all research conducted under the auspices of or within the jurisdiction of the institution.

In keeping with the requirement of the Tri-Council Policy Statement that the highest body of the institution shall establish the REB(s), Senate has created the Indigenous Research Ethics Board (IREB) and, for non-Indigenous Research the York University Research Ethics Board (HPRC). Appointments to the IREB shall be made by the Associate Vice-Presidents, Research who oversee research with human participants as delegated by the Vice-President, Research and Innovation upon the sole recommendation of the Indigenous Council at York University.

1.3 Membership
  a. The composition of the IREB shall reflect the University's commitment to diverse Indigenous nations and Indigenous Peoples (First Nations, Inuit, and Métis) as well as principles of diversity, equity, decolonization inclusion. In recognition of the limited number of Indigenous scholars on campus the term of service for members shall be 3 years.

b. At a minimum, the TCPS requires that a REB must be comprised of 5 members. Accordingly, the IREB shall be comprised of at least 5 faculty members including a diversity of First Nations, Inuit, and Métis Peoples and gender identities. The Indigenous Council shall nominate candidates to the Associate Vice-Presidents Research. The faculty member appointments shall be consistent with the principles of Guidelines and Procedures for Senate Nominations.

c. The IREB shall also consist of at least three external Elders/Knowledge Keepers and the Chair of the Research Responsibility Group of the Indigenous Council. This composition must be maintained at all times in order to ensure compliance with this policy.

d. In addition, IREB shall have:

   i. three Indigenous community representatives (at least one of whom will be a youth 16-19 years) who have no affiliation with the University and who will be provided an annual honourarium.   The Indigenous Council shall nominate candidates to the Associate Vice-President Research.

   ii. at least one Indigenous undergraduate and one graduate student each of whom will be provided an annual stipend. The Indigenous Council shall nominate candidates to the Associate Vice-President Research.

e. The following shall provide the IREB with administrative support and advice where relevant as non-voting members:

   i. the Director, Office of Research Ethics
   ii. the Manager, Office of Research Ethics
   iii. the Director, Information, Privacy and Copyright
   iv. the Biological Safety Officer

f. Additional members may be appointed as required to ensure that all relevant subject areas are adequately represented. Further, where full membership is not warranted or applicable, Ad Hoc Advisors may be consulted. The advice of Ad Hoc Advisors will be sought in the event that the IREB does not have the discipline specific expertise or requisite knowledge to provide appropriate review of a particular ethics protocol. It should be noted that Ad Hoc Advisors are not members of the IREB and therefore do not count towards quorum nor do they vote on IREB decisions.

1.4 Chair and Vice-Chair

The Chair of IREB shall be appointed by the Associate Vice-Presidents Research, as delegated by the Vice-President Research and Innovation, on the sole recommendation of the Indigenous Council. The Vice-Chair will be chosen on the recommendation of IREB Committee members. The Chair should, generally, serve for a term of three years with a possibility of renewal if or as needed.

1.5 Substitute Membership

A roster of substitute members to the IREB may be appointed by the Associate Vice-Presidents, Research to ensure continuity and compliance of the ethics review process in the event of illness and/or other unforeseen circumstances which prevent a quorum of membership of the committee and/or a lack of appropriate representative disciplines for the purposes of review.

1.6 Training

IREB members shall receive relevant training as it relates to research ethics policy and research ethics review procedures and processes.

Training shall be provided by the Office of Research Ethics in conjunction with the Indigenous Council. New members will be provided with the resources necessary to undertake their responsibilities as IREB members. In addition to the training provided by Office of Research Ethics (ORE) & Indigenous Council (IC), IREB members are expected to complete the TCPS online tutorial. On-going training will be provided to members of the IREB through education and outreach activities where relevant and necessary.

1.7 IREB Standard Operating Procedures and/or Guidelines

In order to ensure consistency of decision-making processes as well as to ensure accountability of said processes, wherever possible, Standard Operating Procedures (SOPs) or Operations Guidelines should be developed and implemented as they speak to IREB operations. SOPs shall be developed, reviewed and updated, where applicable, on a regular basis. All relevant SOPs will be developed by and housed in the Office of Research Ethics and subject to review and/or approval by the IREB where applicable.

1.8 IREB Meetings, Quorum and Attendance

The IREB shall meet periodically and a minimum of 1 - 2 times annually for the purposes of discharging its responsibilities. At least once yearly, a meeting of the IREB may be convened for the purposes of reviewing SOPs, and other operational

and reporting documents where appropriate and applicable. Additional and emergency meetings of the IREB can be convened at the request of the Chair or members of the Committee for the purposes of reviewing research that is problematic, contentious, or for which a consensus decision cannot be reached via regular review processes. Quorum must include the Chair, at least one Elder, one community member and 3 additional members.

1.9 Reconsideration and Appeals

If an ethics review body refuses to approve the research or if the body requires amendment to the research as a condition of approval and the lead researchers or Principal Investigator disagrees with the proposed amendments, the Principal Investigator may provide a rationale for reconsideration of the IREB decision. Upon receipt of such a request, the IREB is required to provide a prompt reconsideration and decision pertaining thereto. Should the IREB and the researcher fail to come to an agreement with regards to the committee's decision, the researcher may appeal the ethics review body's decision to the Indigenous Research Ethics Board Appeal Committee (IREBAC) which shall conduct an ethics review of the research Protocol and the procedures followed by the body that conducted the first review. The appeal body is an ad hoc committee. Membership of the IREBAC shall be drawn from past members of the predecessor Indigenous Research Ethics Advisory Committee (pre-2023) and/or the Indigenous Research Ethics Board. However, members of the IREB whose decision is under appeal shall not serve on the appeal committee. Decisions of the Indigenous Research Ethics Board Appeal Committee are final and binding.

1.10 REB(s) Reporting Requirements

The IREB is required to provide an annual report to the Indigenous Council and to Senate via the APPRC for the purposes of information and oversight. The report shall include a list of all IREB approved protocols, an overview of IREB operations, education and outreach activities, a report on activities of the Committee and the Office of Research Ethics, and any other relevant matters.

1.11 Conflict of Interest

a. Any conflict of interest that exists or may appear to exist as it relates to any of the researchers must be described, even though this need not halt the research. A conflict of interest may exist if there is potential benefit to the researcher(s) beyond the professional benefit from academic publication or presentation of the results (and consequent honoraria, royalties, etc.). In addition to researcher conflict of interest, there may be institutional conflicts of interests, as well as IREB members' conflict of interest. Just as all researchers are required to state

clearly any and all real or perceived conflict of interest on ethics protocols, so too IREB members are bound to the same disclosure and are required to state any real or perceived conflicts of interest they may have with regards to a particular protocol before the committee for review. To better manage such conflicts, IREB members will be reminded that they are required to recuse themselves from deliberations of any such research protocols. To manage institutional conflicts of interests, any real, potential or perceived institutional conflicts of interest should be reported to the relevant REB in accordance with the approved Senate Conflict of Interest policy.

b. While it is preferable that conflicts of interest be avoided, in those cases where a conflict of interest cannot be avoided, researchers must declare said conflicts to the IREB and research participants alike, in as much detail as possible. Researchers are required to minimize or manage identified conflicts and provide the IREB with a detailed description of how such conflicts will be managed. For those instances where there may be a financial conflict of interest, researchers shall disclose all kinds and amounts of payment to the researchers by sponsors, commercial interests and consultative or other relationships. Where concerns are raised with regards to potential financial conflicts of interest, the IREB may require researchers to provide a copy of their budget so that it may be examined for inappropriate payments or unexplained expenses.

c. Researchers should be aware that the IREB can determine, upon review of the stated conflict of interest and proposed method for management of same, that the researcher withdraw from the research or that others on the research team who are not in a conflict of interest make research-related decisions. Further, the IREB has the discretion to prohibit certain kinds of payment and the discretion to refuse to approve a protocol for which it feels the implications of the conflict of interest are too significant and/or cannot be managed effectively.

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To: Members of APPRC

From: Amir Asif, Vice-President Research & Innovation (VPRI)

Date: January 19, 2023

Subject: Indigenous Research Ethics Board (IREB)

_____

The development of the Indigenous Research Ethics Board (IREB) represents an important step in York's journey towards decolonizing research. As a member of the Working Group stated, "A new Indigenous REB entity would make incorporating other ways of seeking knowledge possible. Having an indigenous REB opens the door for building a new relationship to research." Recognizing that Indigenous researchers and their communities should have power over how research is conducted is vital, and the IREB would support this self-determination.

While many institutions have developed policies governing research involving Indigenous peoples, including York University, the development of a wholly autonomous institutional Indigenous Research Ethics Board would put us ahead of the curve in pan-institutional movement towards decolonizing research. The Office of VPRI will provide the operational resources for IREB, including an annual 0.5 FCE (3 credit) of course release for the IREB Chair, honorariums for Elders and Indigenous community members (up to 3 each) as members of IREB, and research internships for student members of IREB (up to 3 students annually). The administrative, operational and policy support would continue to be provided by the Office of Research Ethics in the Division of VPRI.

On behalf of York University, the Office of Vice-President Research & Innovation is pleased to support this important initiative and look forward to its implementation.

York University Institutional Research Data Management Strategy

York University Senate

JANUARY 26, 2023

YORK U

Open Access Open Data Steering Committee

The York University Open Access and Open Data Steering Committee engages in broad stakeholder discussions to advance:

> Campus-wide education on open access and data management

> Coordinated service models that support faculty with requirements of OA and RDM policies

> Discussion and consideration on changes to the system of scholarship, sustainability of current economic models of scholarship, access to publicly funded research, issues surrounding authors rights in the digital age, and new scholarly distribution systems and other connected open movements

YORK U

Developing and enabling policies for Open Scholarship

- Tri-Agency Policy on Open Access Publications
- Tri-Agency Statement on Digital Data Management
- York University Senate Policy on Open Access
- **Tri-Agency Policy on Research Data Management**
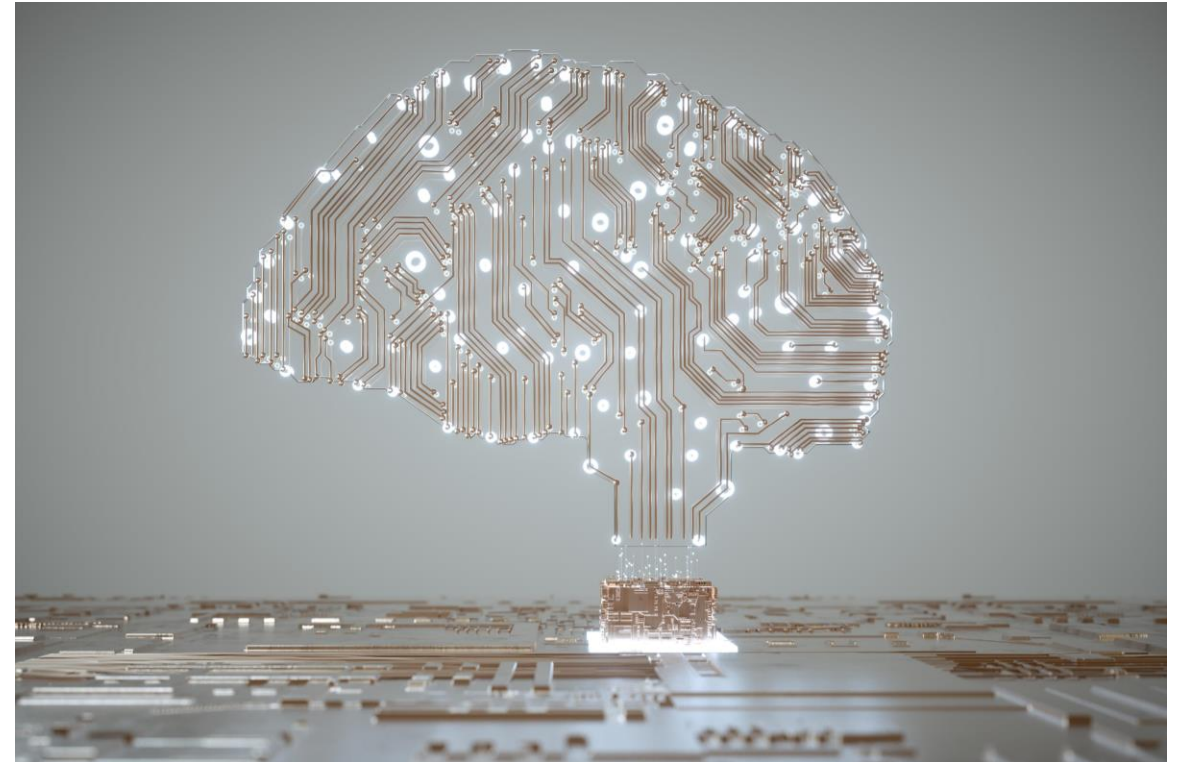
York University will develop an institutional strategy on research data management strategy by 2023 to align with Tri-Council policies

YORK U

Reminder - Tri-Agency RDM Policy (2021/3/15)

Tri-Agency Research Data Management Policy

- **Institutional strategies:** By March 1, 2023, research institutions subject to this requirement must post their RDM strategies and notify the agencies when they have done so.

- **Data management plans:** By spring 2022, the agencies will identify an initial set of funding opportunities that will be subject to the data management plan requirement. Before this, the agencies will pilot the requirement in targeted funding opportunities.

- **Data deposit:** After reviewing the institutional RDM strategies, and in line with the readiness of the Canadian research community, the agencies will phase in the deposit requirement.

Government of Canada, I. (n.d.). *Tri-Agency Research Data Management Policy—Science.gc.ca*. Innovation, Science and Economic Development Canada. Retrieved March 24, 2021, from https://ic.gc.ca/eic/site/063.nsf/eng/h_97610.html

Tri-agency Expectations about RDM Institutional Strategy

> High level

> Not looking for perfection

> Looking for commitment to develop institutional communication and awareness strategy and engagement with our own researchers

> Looking for commitment to develop an institutional roadmap and pathway for success

> Interest in learning about our insights through this process that could be brought back to the Tri-agency.

> Canadian Tri-Agency Data Management Policy observes Indigenous data sovereignty and recognizes the need to develop Indigenous RDM protocols.

"Moving forward, the agencies plan to support the development of Indigenous RDM protocols that aim to ensure community consent, access and ownership of Indigenous data, and protection of Indigenous intellectual property rights. This next phase in advancing Indigenous RDM in Canada is outlined in *Setting New Directions to Support Indigenous Research and Research Training in Canada 2019-2022*".

https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy-frequently-asked-questions#2

YORK U

" **The York University RDM Strategy is a *data management strategy*, and not an *open data strategy*.**"

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Research Data Management (RDM)

- RDM refers to the processes applied throughout the lifecycle of a research project to guide the collection, documentation, storage, sharing, and preservation of research data.

- RDM practices are integral to conducting responsible research and can help researchers save resources by ensuring their data is complete, understandable, and secure.

- RDM practices also follow institutional and funding agency guidelines that protect their investments.

- The broader research community can derive maximum value from research data that can be accessed, shared, reused and repurposed.
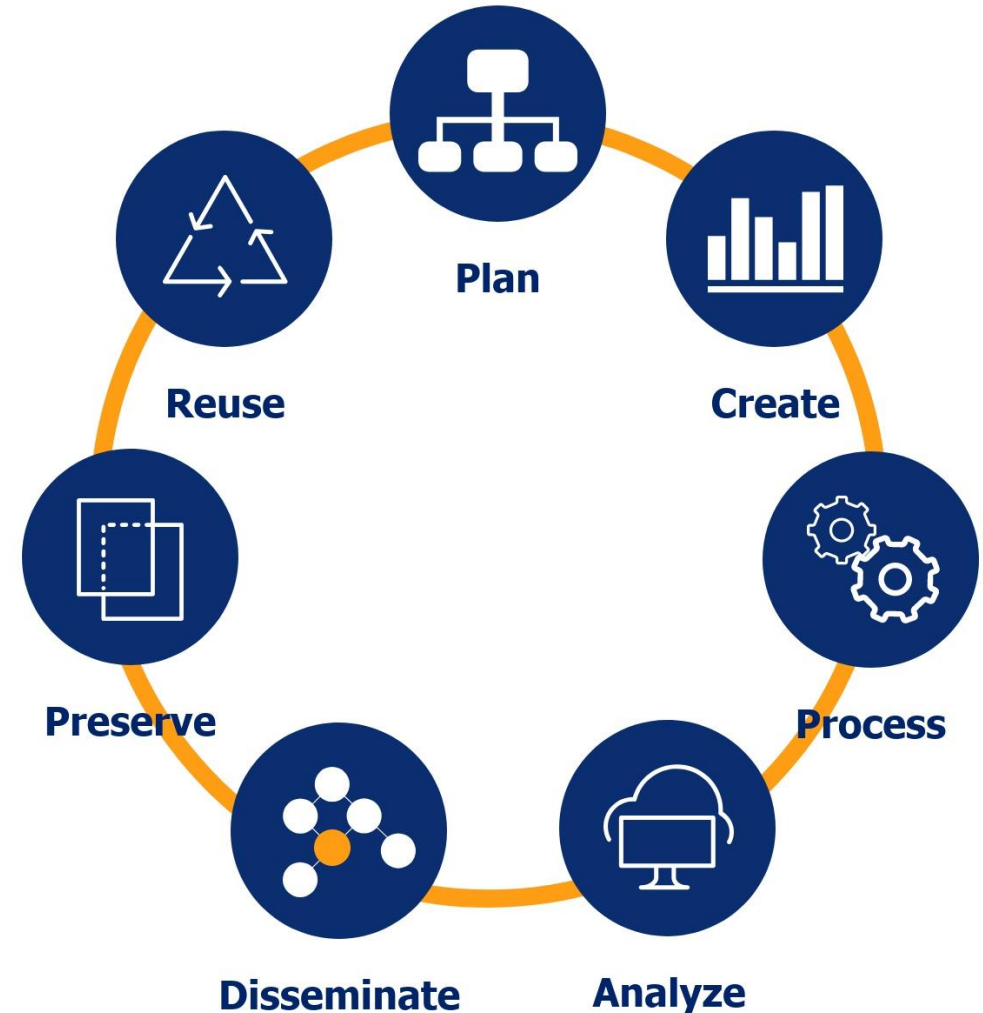
References:
Research Data Management: A Primer. Portage (2019). https://learn.scholarsportal.info/modules/portage/rdm-101-module-4/
European Commission. Directorate General for Research and Innovation., *Providing Researchers with the Skills and Competencies They Need to Practise Open Science.* (Publications Office, LU, 2017).

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Campus Engagement Strategy

Overview of Communications & Implementation Plan

Fall 2021

- Introduction to Deans Presentation 1 (November 2021 Dean's Forum Meeting)

Winter **2021** – Summer **2022**

- Attention to inclusivity of humanities and arts
- Rollout of communication plan for campus engagement & identification of stakeholders
- Identified RDM researcher champions in tandem with specific targeted RDM workshops
- Disciplinary case studies discussed with champions/researchers
- Drafting of strategy development based on stakeholder input sessions with researchers, champions, UIT, ADR's etc.

Fall **2022** – Winter **2023**

- Presentation Two to Deans October 25, 2022
- Presentation to ADRs October 25, 2022
- Faculty Councils and Indigenous Council between November – January 2023
- APPRC and Senate January 2023
- In tandem Research Data Management workshops offered to researchers
- **March 1, 2023 RDM Strategy Due**

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Draft Institutional Research Data Management Strategy

Informed by:

- Campus consultations with researchers engaging with data management
- Three OAOD task groups looked at Institutional Policies, our IT Infrastructure and related supports, and Data Management in the Humanities and Social Sciences, respectively
- Identified our current state and desired future state, and faculty councils will help to further inform this work

Institutional strategy outlines:

- Background, stakeholders and existing policies
- Supporting units internal and external to the university, outlining current and anticipated future assistance needed
- Ethical, Legal, and Commercial Considerations
- Future timeline

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Faculty Council Discussions: Understanding What Constitutes Research Data

- **Primary sources supporting research, scholarship or artistic endeavors**

- **Evidence to validate or substantiate findings and results**

- **Experimental data, observational data, operational data, third-party data, public sector data, monitoring data, processed data, or repurposed data**

- **All other digital and non-digital content have the potential to become research data**

Benefits of Sharing Research Data
- **Promotes future research growth through open access**
- **Supports research integrity**
- **Prevents duplication and loss of research**
- **Increases reproducibility of research**
- **Provides opportunities for collaboration**
- **Is recognized as an important aspect of research across many research communities**
- **Respects Mandatory Privacy Agreements and Confidentiality**

References: *Research Data Management: A Primer.* Portage (2019).

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Draft Institutional Research Data Management Strategy

- <u>Draft</u> is available on the <u>Steering Committee site</u> along with an FAQ, upcoming workshops, and feedback mechanisms
- Faculty Council discussions, APPRC and possibly Senate presentation
- By March 1, 2023, the strategy will be <u>posted on the TriCouncil website</u>
- It will be considered a living document subject to annual review and updating.

Questions

Institutional Data Management Strategy [DRAFT]

January 20, 2023

Introduction

In March 2021, Canada's federal granting agencies — the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) — launched the [Tri-Agency Research Data Management (RDM) Policy](#) [1]. The policy includes requirements related to institutional research data management (RDM) strategies, data management plans (DMPs), and data deposit. York University recognizes the important roles that data management plans and data deposit options play in supporting researchers with their efforts to incorporate research data management into their research practice at all stages of the research project lifecycle.

What is research data management and how does it support the work of researchers?

Research Data Management (RDM) refers to the processes applied throughout the lifecycle of a research project or program to guide the collection, documentation, storage, sharing, and preservation of research data, and allows researchers to find and access data. [2]

Engagement with research data management results in a number of benefits such as:

- The enhancement of research data sharing and collaboration across geographic and disciplinary boundaries
- An improved set of means to make research data more accessible to the general public
- The innovative re-use of preserved data sets
- The increased impact and global visibility of research
- The provision of important resources for education and training
- An increase in the transparency of research methods
- A reduction in research duplication [3, 4]

Aligning with University Plans, Policies and Guidelines

The [York University Academic Plan (UAP)](#) articulates a *Knowledge for the Future* priority, under which a defined outcome is to "expanding the influence of our work through broadening and deepening our external partnerships and engagement in the generation and sharing of knowledge and creative works." This institutional research data management strategy supports the advancement of the UAP priority.

The following internal institutional policies and guidelines intersect with and inform this institutional strategy:

- Access to Information and Protection of Privacy (Senate Policy)
- Account Management (Guidelines and Procedures)
- Computing and Information Technology Facilities (Senate Policy)
- Data Retention and Deposit Guidelines for Research Involving Human Participants
- Data Security Guideline: Research Involving Human Participants
- Guidelines for Research Involving Indigenous Peoples
- Information Security (Senate Policy)
- Information Security Classification Standard
- Network Security and Management (Guidelines and Procedures)
- Records and Information Management (Senate Policy)
- Research Involving Human Participants (Senate Policy)
- Responsible Conduct of Research (Senate Policy)
- York University Dataverse Deposit Guidelines
- York University Dataverse Collections Policy

Guiding Principles

As a publicly funded institution, York University is committed to ensuring the greatest possible scholarly and public access to the scholarship and creative works produced by the University community. Guided by the principles of digital social justice, diversity, interdisciplinarity, accessibility, responsibility to the public, and respect for communal knowledge, York proposes an approach that integrates research data management into a wider framework of Open Scholarship. Understanding the knowledge creation, curation, and circulation undertaken by academics as a public good and responsibility, Open Scholarship calls upon researchers to render their research processes and practices transparent, makes every effort to ensure the safeguarding, sustainability and survival of marginalized and silenced lineages of knowledge, and strives to provide a global community with access to not only what academics create and make public, but also the digital tools by which that material first comes into being and is then circulated.

York University is committed to disseminating the research performed at the University in ways that make it widely accessible, while protecting the intellectual property rights of its authors and national security and interests where relevant. This strategy acknowledges:

- the need to promote the responsible stewardship of research data in keeping with global trends, national initiatives and institutional policies and priorities;

- that changes in technology offer opportunities for new forms of both creation and dissemination of scholarship;
- that research data management offers opportunities for York to fulfill its mission of creating and preserving knowledge in a way that opens disciplinary boundaries and facilitates sharing knowledge more freely with the world while increasing visibility and access to research conducted at the University; and
- the requirement of the University to comply with the *Tri-Agency Policy on Research Data Management.*

The University values and protects the academic freedom of its researchers. It is not the function of this strategy to alter the rights or privileges of individuals defined by collective agreements.

Scope

This strategy applies to all researchers working in different disciplines across the University and considers the unique needs of students, staff, and faculty. The first phase of the strategy will concentrate on identifying existing supports and additional collaborative opportunities, supports, and tools necessary for Tri-Agency-funded researchers at York to adopt responsible data management practices.

Oversight and Review

The [York University Open Access Open Data Steering Committee](#) (OAODSC), co-led by the Libraries and the office of the VP Research and Innovation, brings together key campus stakeholders to coordinate campus-wide education on data management particularly in light of Tri-Agency Open Access Policy requirements and the Tri-Agency Statement of Principles on Digital Data Management. It is tasked with articulating a framework and coordinated service models that support faculty with these requirements. It also creates a wider forum for discussion and consideration on changes to the system of scholarship, sustainability of current economic models of scholarship, access to publicly funded research, issues surrounding authors rights in the digital age, and new scholarly distribution systems and other connected open movements.

The OAODSC led the discussion and development process for the York University Institutional RDM Strategy. The committee engaged in extensive consultation with researchers, administrative units, and faculty councils to draft and review this strategy document. The OAODSC will continue to work with university stakeholders and broader organizations to review, update and maintain this strategy.

Stakeholders

Supporting the responsible stewardship of data at York University requires continued collaboration between different units at York University.

- [Researchers](#) and their collaborators
- Community partners
- Faculty research offices
- [York University Libraries](#)
- [Office of the VP Research and Innovation](#)
- [University Information Technology](#)

Institutional Support

York University leverages internal, regional, national and interdisciplinary supports to make available Research Data Managements services to its researchers.

At a national level, The [Digital Research Alliance of Canada](#) coordinates national level supports for advanced research computing (ARC), research data management (RDM), and research software (RS). In terms of RDM, a series of services have been developed and continuously optimized to meet institutions and researchers' needs, including

- [FRDR](#), a national platform for research data discovery, sharing and preservation
- [DMP Assistant](#), an online bilingual data management planning tool
- [Learning & training](#) resources on RDM
- [Network of experts](#), a community of practice across domains working together to provide resources, expert advice, and practical help on RDM

York University researchers are active members of the Alliance and avail themselves of the services offered by these national initiatives.

Echoing the collaborative approach of RDM at the national level, York University leverages a close partnership between multiple research support units responding to our researchers' needs and aspirations of being competent and efficient as research data collectors, users, and stewards. These research support units will continue to further deepen and formalize their services and supports.

York University Libraries currently supports faculty and student researchers' research data management needs through its data management planning consultation service, its data deposit service, and the provision of an institutional repository for research data, Borealis. York University is a partner member of Borealis [https://borealisdata.ca/,](https://borealisdata.ca/) a federated Canadian Dataverse Repository, which is part of a bilingual, multidisciplinary, and secure Canadian research data repository network. The Libraries contribute to funding the Borealis infrastructure and support researcher data deposit

for publications in compliance with granting agency and publisher data requirements. [7]

The institution will support researchers with their research data management needs by continuing to provide assistance and training in the area of research data management planning through library programs, the Research Commons, and other professional development programs. [8]

University Information Technology (UIT) currently supports faculty and student researchers through:

- High-performance connectivity to cloud providers, and R&E/ARC/HPC resources at regional (GTAnet), provincial (ORION), and national (CANARIE) levels, as well as general Internet.
- IT services for researchers including data storage, server hosting and management, collaboration services, identity and federated access arrangements for collaborating with research community outside York
- Consultations to assist with grant proposal development – including IT services, architecture advice, cost estimates, cybersecurity, etc.
- Cybersecurity consultation and assistance, including researcher practices are in line with requirements of data sharing agreements and other third-party obligations
- Support of VPRI institutional platforms (Sophia, eCV)

The Office of Research Ethics will engage in ethics oversight in matters relating to data management for research involving human participants, animals and biohazardous materials by ensuring :

- TCPS2 regulations are followed, including protecting the rights and privacy of individuals
- Informed consent, where possible, includes a provision that makes possible a variety of publication options including open data
- Indigenous and community ethics practices are respected

Under the guidance of VPRI and Libraries, research deans' offices will review grant applications to ensure research data management plans and their associated costs are considered in proposals in accordance with grant requirements.

Ethical, Legal, and Commercial Considerations

York University offers support to researchers that enables compliance with ethical, legal and commercial requirements through various services. The Office of Research Ethics (ORE) supports academics seeking to undertake research involving human, animals or biological agents, and it provides the resources and expertise necessary for

faculty to complete the appropriate ethics review process in an efficient and timely manner. The institution acknowledges that data management practices adopted by researchers must be consistent with ethical, legal and commercial obligations, as well as Tri-Agency requirements, including the Tri-Agency Policy Statement: Ethical Conduct for Research Involving Humans – TCPS2 (2022), the Tri-Agency Framework: Responsible Conduct of Research, and other relevant policies.

Indigenous Data
The institution recognizes that data created in the context of research by and with Indigenous communities must be managed according to a distinctions-based approach that ensures the unique rights, interests and circumstances of the First Nations, Métis and Inuit are acknowledged, affirmed, and implemented (Tri-Agency RDM Policy). This institutional strategy acknowledges and observes Indigenous data sovereignty in alignment with the Canadian Tri-Agency Data Management Policy [5].

The York University Indigenous Framework and Guidelines for Research Involving Indigenous Peoples currently help inform researchers and the Human Participants Review Committee as they prepare for and review research to be conducted with Indigenous communities (Guidelines for Research Involving Indigenous Peoples). A *Senate Policy on Indigenous Research Involving Human Participants* is forthcoming, along with corresponding Indigenous Research Ethics Board (IREB) Procedures. York University will continue to align its frameworks and practices with forthcoming Indigenous RDM protocols developed by the Tri-Agencies:

> Moving forward, the agencies plan to support the development of Indigenous RDM protocols that aim to ensure community consent, access and ownership of Indigenous data, and protection of Indigenous intellectual property rights. This next phase in advancing Indigenous RDM in Canada is outlined in *Setting New Directions to Support Indigenous Research and Research Training in Canada 2019-2022* [6].*Commercialization Considerations*

Innovation York facilitates and maximizes the commercial, economic, and social impacts of research & innovation, and creates a culture of engaged scholarship and experiential learning. Commercialization and commercial agreement considerations are supported by Innovation York.

External supports for capacity building

Institutional consultation surfaced the following areas where external resourcing supports will be needed to support the expansion of Research Data Management efforts at the university:

- Funding support for research teams to remunerate staff when additional labour to implement research data management (inclusive of AODA compliance) through the grant project lifecycle is required
- Expansion of FRDR functional requirements to support the deposit of sensitive data
- National strategy to underwrite mounting costs for long term storage of Canadian research data, recognizing the plurality of research data formats and varied contexts of international collaboration
- Funding for legal supports for Research Data Management in the arts that involve the navigation of complex intellectual property rights

Timelines and Looking Ahead

Currently we are resourced to assist Tri-Agency funded researchers with the first round of applications requiring DMPs in 2023, drawing on our existing experience in working with researchers in the area of RDM. (OADASC) will revisit the strategy, which is intended as a living document, based on researcher response and evolving Tri-Agency requirements. The review of the institutional strategy is an iterative process. As more is known we will have a better sense of resourcing needs to meet evolving objectives. We will plan for an annual review of York's Institutional Strategy, by the OADASC, York University Libraries Senior Leadership team and the VPRI Executive team. Should staff be required for assistance, it is possible that additional staff will be hired. The OAODSC will work to identify a permanent home for the ongoing review and sustainability of this work.

For more information, please contact:

OADASC co-chairs: Joy Kirchner, Dean of Libraries and Jennifer Steeves, Associate Vice President Research & Innovation.

References

[1] Government of Canada. Research Data Management.
https://www.ic.gc.ca/eic/site/063.nsf/eng/h_547652FB.html

[2] Digital Research Alliance of Canada. Research Data Management.
https://alliancecan.ca/en/services/research-data-management

[3] UCLA Library. Data Management for Humanities.
https://guides.library.ucla.edu/data-management-humanities.

[4] Kathleen Shearer. Comprehensive Brief on Research Data Management Policies.
https://doi.org/10.5281/zenodo.4552680

[5] https://www.science.gc.ca/eic/site/063.nsf/eng/h_97610.html

[6] https://science.gc.ca/site/science/en/interagency-research-funding/policies-and-guidelines/research-data-management/tri-agency-research-data-management-policy-frequently-asked-questions#2

[7] York University Libraries. Research Data Management. https://www.library.yorku.ca/web/research-learn/research/rdm/

[8] Office of Research and Innovation. Research Commons. https://researchcommons.yorku.ca/

Definitions

Research data: Research data are data that are used as primary sources to support technical or scientific enquiry, research, scholarship, or creative practice, and that are used as evidence in the research process and/or are commonly accepted in the research community as necessary to validate research findings and results. Research data may be experimental data, observational data, operational data, third party data, public sector data, monitoring data, processed data, or repurposed data. (Adapted from: Tri-Agency RDM Strategy FAQ)

Research data management: Research data management refers to the processes applied throughout the lifecycle of a research project to guide the collection, documentation, storage, sharing, and preservation of research data. (Adapted from: Tri-Agency RDM Strategy FAQ)

Data management plan: A data management plan (DMP) is a formal statement describing how research data will be managed, documented, and preserved during the research process and once the project is completed. A DMP is a living document, typically associated with an individual research project or program that consists of the practices, processes and strategies that pertain to a set of specified topics related to data management and curation. DMPs should be modified throughout the course of a research project to reflect changes in project design, methods, or other considerations. Data management planning is an international best practice which supports the responsible conduct of research and respects the disciplinary norms inherent in how research data are collected and described in various fields. (Adapted from: Tri-Agency RDM Strategy FAQ and CODATA RDM Glossary Definition)

Academic Standards, Curriculum and Pedagogy

Report to Senate

Meeting of 26 January 2023

For Action

New Degree Type

a. **Establishment of the degree of Master of Business Administration in Technology Leadership, Schulich School of Business**

Having provided notice at the Senate meeting of December 15, 2022, ASCP recommends,

> that Senate approve the establishment of a Master of Business Administration in Technology Leadership degree, Schulich School of Business, as set out in Appendix A, effective FW2023-2024.

Rationale

The full proposal and supporting documentation are included as Appendix A. The proposed new Master of Business Administration in Technology Leadership (MBAt) degree program is designed for those with an employment background in technology who wish to prepare for management and leadership roles in technology-based industries. It will be offered on a full-time basis and will be open to candidates with two to five years of relevant work experience in technology or STEM fields.

The proposed MBAt complements, but is distinct from, the suite of Masters programs housed in the Schulich School of Business. It will respond to the need and demand from national and international technology-based firms for managerial talent to in this sector. For students seeking specialized training for management careers in the industry, this program will meet their needs versus the broader learning outcomes of the MBA program. The University will benefit from offering a program that fills a niche for this training that no other business school in Ontario or Canada is currently providing.

The teaching and learning goals of the UAP and Schulich's academic plan will be advanced through this new program. The external appraisers endorsed it and the proponents have incorporated several of their recommendations to strengthen the program. The statements of support from the Dean and the Provost confirm the resources for the new program.

Once the degree type is approved by Senate, a companion resolution to establish the Master of Business Administration in Technology degree program will come forward for approval.

ASCP – Report to Senate

Approvals: Schulich Faculty Council 22 April 2022 • ASCP 2 November 2022 • APPRC 8 December 2022 (concurrence).

New Programs

b. Establishment of a Master of Business Administration in Technology Leadership degree program, Schulich School of Business

Having provided notice at the Senate meeting of December 15, 2022, ASCP recommends,

> that Senate approve the establishment of a Master of Business Administration in Technology Leadership degree program as set out in Appendix A, to be housed in the Schulich School of Business, effective FW2023-2024.

Rationale

See Item 7a above

Consent Agenda

Certificate and Degree Closures and Changes in Degree Requirements

c. Closure of the Certificate in Geographic Information Systems (GIS) and Remote Sensing (RS), Environmental & Urban Change (EUC) and Liberal Arts & Professional Studies (LA&PS)

> ASCP recommends:

> > that Senate approve the closure of the of the Certificate in Geographic Information Systems (GIS) and Remote Sensing, housed in EUC.

Rationale

With the establishment of EUC, some programs were closed. EUC has combined both the ES/GIS & RS and the AP/Geography GIS/RS Certificates into a new certificate – "Certificate in Geomatics: GIS & RS"

There will be minimal impact on students as the Certificate exists under a different name. Grandparenting rules take into consideration course levels, course content and course substitutes. If necessary, discretion will be used to accommodate any students inadvertently disadvantaged by the rules implemented by the new EUC Faculty. There is no impact on faculty affiliated with the Certificate program.

Approvals: EUC Faculty Council 20 October 2022 • ASCP 11 January 2023 •

ASCP – Report to Senate

d. Closure of the BSc degree in Geography, Faculty of Environmental & Urban Change and Faculty of Science

ASCP recommends:

> that Senate approve the closure of the BSc degree program in Geography housed in the Faculty of Science and delivered by the Faculty of Environmental and Urban Change, FW 2022-2023.

Rationale

With the establishment of the Faculty of Environmental and Urban Change (EUC) in 2019, the Geography program was among the programming that moved from the Department of Geography in the Faculty of Liberal Arts and Professional Studies to the new Faculty. Since that time, EUC has developed several new / revised degree programs consistent with its mission, and has closed other legacy programs. The BSc degree program Geography housed in the Faculty of Science where students officially enrolled in it is one program slated for closure. The BSc in Geography was enveloped into a BSc in Environmental Science by EUC, enabling students continuing access to geography courses.

Both Deans of Faculty of Science and EUC support the closure.

Approvals: EUC Faculty Council October 20, 2022. Science Faculty Council December 12, 2022. ASCP January 11, 2023.

e. Changes to degree requirements for the Master of Management in Artificial Intelligence (MMAI), Schulich School of Business

ASCP recommends,

> that Senate approve as set out in Appendix B:
> - a change to the first term of the MMAI from Fall to Summer term, effective Summer 2023 session, and
> - revisions to the list of core required courses, with no reduction in the number of required credits

Rationale

This change allows students to be ready for recruitment for roles in the following Fall. Changes to the core courses for the MMAI ensure appropriate sequencing of courses and

allows for streamlining of courses shared with the Master of Business Analytics. There is no change to the Learning Outcomes for the MMAI.

Approval: SSB Faculty Council, April 14, 2022. ASCP January 11, 2023.

f. Changes to degree requirements for the Master of Business Analytics (MBAN), Schulich School of Business

ASCP recommends,

> that Senate approve as set out in Appendix C:

- revisions to the list of core required courses, with no reduction in the number of required credits, and
- the addition of two courses to the list of elective courses for the program, effective Summer 2023 session.

Rationale

The proposal is to modify the required courses for the MBAN, to change the rubric and course number for MBAN core courses, and to add two electives to the MBA effective Summer 2023 session. These changes ensure appropriate sequencing of courses and allows for streaming of courses shared with the MMAI.

Approval: SSB Faculty Council, April 14, 2022. ASCP January 11, 2023.

g. Changes to degree requirements and reduction in number of credits of the Faculty-wide "in/out" of the major requirements for the BFA program in Music, AMPD

ASCP recommends:

> that Senate approve the changes in degree requirements and reduction in the number of Faculty-wide required credits for the BFA degree program Music as set out in Appendix D, effective FW2023-2024.

Rationale

The full proposal and documentation are included at Appendix D. A new degree requirement of a 3.0 ensemble course is being introduced to ensure that all department of music graduates experience the unique learning found in collaborative music making, help to establish a level of performance competence, and to encourage exploration in music beyond the student's current areas of expertise. A number of the important undergraduate degree level expectations and learning outcomes will be addressed by this change.

ASCP – Report to Senate

The current degree requirements allow for a student to enter the program and not receive any performance experience or training until their third year of study, when they must fulfill a degree requirement of a minimum of 12 credits in upper-level studio courses.

It is believed that the opportunity for increased engagement in students' home discipline will increase student satisfaction and retention. In fulfilling the aforementioned upper-level studio requirements during their third and fourth year of study, in the current model, students may find themselves without the prerequisites needed to join a multi-level performance course at the third or fourth-year level required to fulfil degree requirements.

The resources required by these changes currently exist. No additional resources are required. Current majors will continue following the current degree requirements and will not be impacted by this change.

Approvals: AMPD Faculty Council Approval December 7, 2022. ASCP January 11, 2023.

h. Changes to degree requirements for the BA and BSc degree programs and the Minor degree option in Psychology, Faculty of Health

ASCP recommends,

> that Senate approve the removal of the minimum grade requirement of 'C' in HH/PSYC 1010 6.00 in the BA and BSc degree programs and Minor degree option in Psychology, as set out in Appendix E, effective FW 2023-24.

Rationale

The full proposal and documentation are included at Appendix E. Proposing to remove the minimum grade of 'C' such that students who obtain a D or D+ in Introduction to Psychology will not be prohibited from taking additional courses and progressing in their psychology degrees. The primary rationale for this change is that it unnecessarily disadvantages students who may already be disadvantaged. Not only are these students prevented from proceeding with obtaining their degree requirements, but they are left to retake the course often multiple times in order to progress. This adds undue financial burden to students. During COVID, the minimum C requirement was temporarily waived and comparative analyses between student performance in PSYC 1010 and later performance on 2nd year required courses indicated that the results were not substantially different. Many of the students who obtained a D/D+ in PSYC 1010 went on to perform appreciably better in their 2nd year courses.

ASCP – Report to Senate

As students obtaining D/D+ in PSYC 1010 are not significant in number (~100 per year), the Department of Psychology does not anticipate this change having any significant impact on resources. On a positive note, it may open seats in Year I offerings of PSYC 1010 because fewer students will need to retake the course.

Approvals: Faculty of Health Faculty Council December 7, 2022/ ASCP January 11, 2023.

For Information

a. Minor Modifications

The following items were approved by ASCP effective FW2023-2024 unless otherwise noted.

School of Arts, Media, Performance and Design
Correction to the Calendar Copy of Dance, previously approved (December 7, Faculty Council).

Lassonde School of Engineering
Changes in program requirements for Computer Security BA and BSC; Computer Science BA and BSc; Digital Media BA and BSC (Digital Media to be confirmed).

Faculty of Environmental and Urban Change
Changes to the degree requirements for the PhD in Environmental Studies.

Glendon
Changes to program requirements as a result of new courses in Canadian Studies, Philosophy, French Studies, Linguistics; minor modification to program requirements for English.

Faculty of Science
Changes to program requirements for Biology, Chemistry, Mathematics and Statistics, Natural Science, Neuroscience, Physics and Astronomy, and Science, Technology and Society.

Martin Bunch
Chair, ASCP

York University

New Program Proposal

**MBA in Technology Leadership
(MBAt)**

November 2022

Prepared by:

Marcia Annisette
Ashwin Joshi
Kiridaran (Giri) Kanagaretnam
Kevin Tasa
Detlev Zwick

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1. **INTRODUCTION**

Include a brief description of the proposed program. You may also choose to include additional information, such as a description of the consultation process undertaken and/or an analysis of demand for the program. Additionally, you may identify unique curriculum or program innovations, creative components, or significant high impact practices. Where appropriate, include additional elements, for example, consideration of equity, diversity and inclusion, special missions and mandates, and student populations that are being encouraged by governments, institutions, and others.

The proposed 16-month (4-term) full-time MBA program in Leading Technology-Enabled Organizations (MBAt) will be unique in Canada, offering explicitly designed courses and experiential education components (mandatory experiential education modules (e.g., internships in technology leadership), professional development core, and a capstone integrated field study)) for students interested in leadership roles in the technology-based industries. The program will be designed and taught by faculty within the Schulich School of Business. The current MBA faculty will provide leadership and general management expertise. The current Master of Business Analytics (MBAN) and Master of Management in Artificial Intelligence (MMAI) faculty will provide technical expertise.

The program's primary goal is to develop managerial and leadership skills and competencies in the context of technology and digital transformation initiatives. Other goals of the program will be to produce graduates who will bring leading-edge technological and managerial knowledge to develop proactive organizational responses to technological disruptions. Program graduates will also foster silo-breaking intra-organizational collaborations to create innovative solutions to ongoing business challenges. They will champion clarity of business intent, robust customer connections, and an enriching employee experience.

This focused MBAt program is not for "Sector Switchers". It is for people with technology experience seeking Management and Leadership positions in technology roles. In contrast, our current MBA program enables sector switching. More specifically, the current Schulich MBA program is a general leadership degree that is open to all qualified candidates with minimum two years experience in any sector while offering a part-time, full-time or weekend/evening delivery format. It also provides access to 17 different specializations. A significant proportion of the students applying to and admitted into the current MBA program are "Sector Switchers", namely their education and work experience are drawn from a specific sector and they pursue the MBA with the intention of going into a career in management field unrelated to that sector (for example a student with education and work experience in the field of health intending to switch to a career in marketing).

The program has been designed by the current MBA Program Director in close collaboration with the Schulich's Senior Leadership Team (Dean Zwick, Associate Dean Annisette, and Associate Dean Kanagaretnam) and a small group of program teaching faculty (hereafter referred to as the program task force).

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The motivation for the MBAt program stems from the age of technological disruption, where technology is disrupting business models across industries (e.g., automobiles; hospitality; banking; construction; logistics) and has infused all organizational roles (e.g., purchasing; operations; finance; marketing; logistics; service). Whilst courses in the existing MBA are currently being revised to reflect this technological disruption so that its graduates are prepared for the new demands on traditional organizational roles, the motivation for the MBAt recognizes that in this new environment, technology-based firms are also looking for a different type of managerial talent: one with a "startup mindset". In particular, a startup mindset" refers to an organic orientation toward creating value for organizational stakeholders in a methodical manner while at a timely pace and toward developing new independent business units that build out a supportive ecosystem for the firm.

The task force also believes Schulich's long-term commitment and strengths in organizational stakeholder orientation will be an important differentiating factor in educating MBAt students to become future leaders with explicit commitments to diversity, equity, and inclusion, and a commitment to minimizing their environmental footprint, while also developing initiatives to reverse the decline in the natural environment.

Demand for the Program

We have heard from Schulich Dean's Advisory Council about the need for providing leadership talent for firms in the technology-based industries in Canada and globally. We have already consulted Schulich alumni in leadership positions in technology, venture capital, digital finance and startup sectors, and they are very enthusiastic about this new program (please see Appendix 1c for the list of industry experts consulted by the task force). We plan to get further input with the help of Schulich's CDC and alumni relations departments. The employer feedback from organizations in the Tech industry that hire our MBA graduates (e.g., Amazon, Deloitte – Technology Consulting) have also been very positive.

According to a recent Bloomberg article[1], "There's this mismatch between what employers are looking for and what many of the business schools are offering. MBA programs focus heavily on corporate finance. Employers want grads to also be able to handle strategic projects such as broad-scale digital transformation." The new MBAt program is timely in this regard.

Evidence from Focus Groups:

Who: We conducted three focus group interviews.

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[1] https://www.bloomberg.com/news/articles/2021-08-23/business-school-mba-programs-need-revamp-to-teach-digital-transformation)

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Focus Group Interview 1: Alumni who are in technology-based industries and roles.

Focus Group Interview 2: Individuals who are involved in hiring decisions in the following organizations: Amazon, Salesforce, E&Y, PWC, RBC, and Sunlife.

Focus Group Interview 3: Current students in the MBA Program that fit the target input profile for the MBAt (i.e., STEM degree, 4 years of work experience in technology roles, interest in moving over to the management side of technology).

What:

The findings across these three focus groups were strikingly consistent:

(i) Employer Demand: Quotes such as "we cannot hire fast enough in technology management positions," and "We have enough software developers, we need individuals that can create business value from technologies" are representative. "Start this program yesterday" was the general theme from employers.

(ii) Student Interest: Here as well, the findings are consistent. In both the alumni group (Focus group 1) and in the current student group (Focus group 3), comments were highly supportive of the program. "I want to come back and take this program," "I will gladly take this program…it is just what I was looking for," and "Why could you not have started this program when I was deciding on MBA schools," were the comments we heard repeatedly.

Conclusion: Based on our review of the secondary reports from newspaper articles, and from our primary research with employers and students, we infer that there will be strong demand for this program.

NOTE: The proposed MBAt differs from the existing Master of Management in Artificial Intelligence (MMAI) (https://schulich.yorku.ca/programs/mmai/) in two important respects: First, whereas the MMAI is a pre-work experience program, the MBAt requires work experience in technology roles (2 to 5 years) as an entry requirement. Second, as a comparison of the curriculums across the two programs will demonstrate, whereas the principal emphasis in the MMAI is to enhance technical and managerial expertise in the program's graduates, the principal emphasis in the MBAt is to enhance the leadership expertise in the graduates of the program. Whereas graduates of the MMAI largely act as an interface between technical and managerial roles in organizations, we expect graduates of the MBAt will go into the managerial and leadership roles in technology-based functions and organizations.

Method Used to Develop the Program

The program has been designed by a Schulich-based task force established by the Dean of the Schulich School of Business. The proposed program positioning, structure and

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curriculum is the outcome of extensive consultation with internal and external stakeholders. To develop the learning outcomes and curriculum content the task force obtained input from the relevant subject matter disciplines within Schulich, as well as from prospective students and potential employers. The task force also sought input from management practitioners in industry and government, and consultants to fully understand the emerging trends and the knowledge requirements for leadership in technology and digital transformation careers. The learning outcomes in turn informed which courses are needed to provide future graduates with the required knowledge and skills.

Schulich's Student Services and International Relations department (SSIR) has also reviewed the proposed program to provide input. The School's Committee for Equity and Community (CEC) has also been asked to review it to determine ways to incorporate principles and practices of equity, diversity and inclusion within the curriculum. We will also engage in consultations with the Office of Curriculum Innovation and Teaching Excellence (CITE) to ensure that we are adopting the best in class technology and pedagogical practices to enable excellence in teaching quality.

The task force will continue to incorporate feedback from various parties as the proposal moves through the approval process, and this section of the proposal will be updated as the consultation takes place.

Competing Programs

There are currently no full-time MBA programs in the field of leadership in technology-enabled organizations offered by a business school in Ontario and Canada. In the past five years, leading business schools in the U.S. (e.g., Cornell. NYU, Kellogg) have started offering STEM certified technology focussed MBAs in parallel to their flagship MBA programs. Please see Appendix 2a for the listing and details of these programs.

Online searches augmented with phone calls to administrators revealed the number of specialized masters programs in technology in the Canadian landscape. The search focused on this landscape because the task force believes that students will most likely identify their desired country of study first before identifying their preferred programs. However, the program is general enough to be of relevance globally as well as broad enough to be of interest to those interested in leadership in technology and digital transformation wherever they may come from. Please see Appendix 2b for a table outlining the details of a sample of specialized masters programs in technology. These programs are more technically oriented and target pre-experienced students, whereas MBAt is managerial and leadership focussed targeting post-experienced students. We have discussed the specialized masters programs just to highlight the differences, given the familiarity of these programs in the marketplace.

MBAt also complements the proposed Master of Management in Engineering program jointly developed by Lassonde School of Engineering and Schulich School of Business. We are excited about the possibility of granting advanced standing in the MBAt for the

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graduates of the new Master of Management and Engineering program after they acquire the required work experience.

2. EVALUATION CRITERIA

2.1 Objectives of the program (QAF 2.1.2.1)

The objectives of the proposed MBAt program are as follows:

1. Transforming Technology Developers into Managers and Leaders. Students coming into this program will have a technology background in the form of a technology-based degree (e.g., engineering) and work experience in a technology role. The fundamental objective of this program is to transform these individuals from technology developers into managers and leaders.

Consider the following scenario: With a degree in engineering, and having worked for 4 years at IBM Canada in a technology development role, Alex Smith is eager to explore new challenges. Pertinent questions include: who is actually using the technology that I am developing? How is it transforming their life? What can I do to make the technology more effective and efficient?

The MBAt will enable Alex Smith to address these questions. Specifically, it will enable Alex to do so by providing the tools, concepts, and methodologies to develop meaningful answers to these questions. Through a required internship, Alex will also have the opportunity to test their understanding by applying their ideas in the workplace and learning from the outcomes that unfold.

2. Create a Startup Mindset. Identifying and executing on growth opportunities is a fundamental characteristic of effective leadership. The MBAt will enable students to identify growth opportunities, develop technological solutions to address these growth opportunities, and build business models that will facilitate the effective, efficient, and sustainable implementation of these technological solutions. Typically, stand-alone start-ups or start-up divisions within established companies work on the development of new technologies and business models. In the venture studio course, students will work with these types of start-upfirms/divisions. Through this experience, they will be equipped with the skills needed to grow the businesses that they become part of upon graduation from the MBAt.

3. Create Inclusive Thinkers. Commitment to the triple-bottom-line of ethics, environment, and economics is a long-standing strategic commitment of the Schulich School of Business. Manifesting this commitment, the program will enable technology developers to examine the ethical, environmental, and economic outcomes that technology generates. In doing so, students will become better equipped at developing technologies that serve a social purpose and at implementing

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technologies in amanner that is fair and equitable. The program also makes a robust commitment toengaging with diversity, equity, and inclusion issues. All courses and the program overall will be developed in consultation with the newly constituted Committee for Equity and Community within the Schulich School of Business.

4. **Create Effective Team Builders.** Technology implementation projects – for instance, the deployment of Concur at York University to manage the reporting of expenses – entails teamwork among technology developers, influencers, and users. While the development of cross-functional teams creates the potential for synergy, it also contains the seeds of conflict. In this program, students will learn how to enhance the former, while mitigating the latter. Special attention will be paid to ensuring that graduates of this program become effective and efficient orchestrators of multi-functional – and indeed multi-national – teams. Since teamwork today can be both in-person and remote, the program will equip students with the capabilities to enhance teamwork across both mediums.

5. **Create Compelling Communicators.** Innovation – both its development and its adoption – requires persuasion. Given the risk it entails, the resistors of innovation are many. In this program, students will learn how to present their case for technology initiatives (i.e., development and adoption) in a manner that is clear and compelling. They will learn to do this across multiple mediums – written, oral, and visual – and across multiple forms within each medium (e.g., within the written medium, they will learn how to craft effective emails, create compelling longer documents, and so forth).

Commitment to Specific Pedagogical Means to Attain the Objectives

1. **Commitment to Experiential Learning.** The program makes an explicit and extensive commitment to experiential learning. Three observations will underscore the commitment. One, students will be required to complete an internship (the "Mandatory Internship" course). Two, students will have to work with start-us that are either stand-alone or distinct units within established businesses that are focused upon developing new technological solutions and business models to address on-going business problems (the "Venture Studio" course) more effectively, efficiently, and sustainably. Three, all courses will be required—by design–to devote 30% of class time toward experiential learning initiatives in the form of discussions, case studies, simulations, and guest lectures.

2. **Commitment to Integrating Theory and Practice.** The program will actively integrate the worlds of theory and practice. We will be striving to bring leading practitioners into the classroom as a continuous presence. Where possible, we will encourage instructors to work with specific leading practitioners to develop integrated learningmodules.

3. **Commitment to Professional Development.** The program will create graduates that radiate an executive presence. That is, it will create graduates that knowthe technology

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landscape, understand the issues and concerns of non-technology developers so as to develop synergies with them, communicate in a clear and compelling fashion, and are dedicated to creating competitive advantage and a social purpose for the organizations within which they work. The program will develop graduates that employers will value.

Characteristics of the DesiredApplicant

1. **Academic Background:** The applicant should have an undergraduate degree from a recognized (national or international) university. Preferred degrees are in the areas of STEM; and to a lesser extent in Business; and Design.

2. **Entry Requirements:** In addition to the academic background mentioned above, the candidate should have a track record of 2 to 5 years of work in a technology firm and/or in a technology-enabled role in a non-technology firm (e.g., financial services).

3. **Rationale for Technology-Related Work Experience:** The narrow focus on a technology related work experience is important for two reasons: First, because it aligns with the major objective of the program, being to transform technology developers into engineers. Second, this narrow focus serves to distinguish the MBAt from the regular MBA program. In the latter program, we welcome students from a diverse range of work backgrounds. The regular MBA is designed to given students the opportunity to change their functional orientations, for example, students will have worked in the cultural sector and go on to become marketing managers for consumer brands. By contrast, the MBAt is to enable students to stay within the technology sector, while changing the nature of their role from technology developers to managers/leaders in this sector.

Consistency of the Program with the Institution's Mission and Academic Plans University

Academic Plan

The proposed MBAt program will support many of the University's goals as outlined in the 2020-2025 University Academic Plan (UAP), including:

21st Century Learning

- ***Continued efforts to make York a more attractive destination for all potential students, including Indigenous students and equity seeking groups***
- ***Pursue inclusive excellence by decolonizing curriculum and ensuring our graduates are known for their global mindset, ethical judgment, and superior ability to integrate diverse ideas and worldviews***

  The MBAt program is committed to equity, diversity and inclusion (EDI) and helping the School achieve its goals in these areas. The program proposal was presented to the School's Committee for Equity and Inclusion (CEC) and

suggestions from the CEC for how to incorporate or address EDI issues in the program and curriculum were discussed by the program development task force, and incorporated into the proposal (please see the stated program objective of creating inclusive thinks and explicit learning outcome emphasizing all stakeholders and responsible business)

- ***Additional growth and diversification of our international student body, reaching our goal of 20-25% of our students being international***

  It is anticipated that the proposed program will be attractive to international students as it is sufficiently general and comprehensive to be relevant to technology industries globally. Topics such as logistics, data analytics, accounting, finance are global in nature. Plus, technology firms are trans-national in that they draw from a multi-national workforce and create multi-national workflows, while serving customers all over the world. Further, just like graduates of the regular MBA program, graduates of the MBAt program would be eligible to apply for a Post-Graduation Work Permit (PGWP), which is an attractive prospect for those looking to gain a career foothold in Canada.

- ***Continually reinvent our programs to address emerging issues and labour market needs that call for new pedagogical approaches and cross-disciplinary thinking***
- ***Build essential 21st century skills into our programs, including digital fluencies, information literacies, critical thinking, and the ability to ask good questions, marshal evidence, and communicate effectively across varied media***

  This program has been developed in response to the growing need for more highly capable leaders for the technology industry along with a gap in MBA programs offered by Canadian business schools in the field of leadership in technology-enabled organization. The program's learning outcomes include a focus on understanding the foundations of management, and leadership, and managing technology and digital transformation. They also include the ability to think critically and strategically, communicate clearly and persuasively both orally and in writing, effectively present data in a visual manner, manage a project from start to finish, and understand and respond to the broader social and ethical contexts of the field that form an essential part of well-informed professional judgment and decision-making.

- ***Offer a wider range of credentials and flexible delivery options, from in-person to virtual, to expand access to learning for diverse individuals at multiple stages of their lives and careers***
- ***Encourage students to become lifelong learners with the curiosity, research and creative skills, and habits of mind to continually question and update their own knowledge***

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Our existing MBA Program is indeed designed to welcome students from a range of academic backgrounds and credentials. It also provides flexible delivery options (part-time vs. full-time). By contrast, the MBAt is intended to be more focused on technology developers and offers only one delivery option: Namely, full-time.

Note, however, that the program will make use of the School's hyflex facilities. In terms 3 and 4 of the proposed curriculum, we plan to deliver all the courses in a hyflex format, which will provide students with flexibility in how they choose to attend their courses.

The MBAt program will be part of the pathway of programs within the School that cater to individuals at different stages in their career trajectory. The MBAt will articulate with other existing programs at Schulich (e.g., Master of Management, Master of Business Analytics, Master of Management in Artificial Intelligence (MMAI)) and with emerging programs (e.g., the proposed Master of Management and Engineering) such that graduates from those programs with a "B" standing will be eligible for course exemptions in the MBAt (provided they meet the work experience requirement). This way, the School will nurture an ongoing relationship with students from these other programs within the School. Furthermore, we will develop initiatives with the graduates from our programs such that they create internship opportunities for the next generation of students in the program. Graduates from the program will also be invited to be part of the Professional Development course and serve as special guests in other courses, thereby reinforcing our intent to foster experiential learning in the classroom.

- ***Attain our goal of providing every student with an experiential learning opportunity, regardless of program***

  The program makes an explicit commitment to experiential learning in the following ways:

  1. Every course will commit 30% of the total time to experiential learning initiatives (guest lectures, simulations, case studies, etc.).

  2. Every course will be encouraged to have an ongoing relationship with an industry leader who will sit in on the lectures and offer experiential insights to the students.

  3. The program has a required internship component.

  4. The program will require students to work with real-world clients to develop technology solutions for their business needs and to work with the client to ensure the implementation of these solutions.

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- ***Maximizing our impact by building on the success of Innovation York to expand student, faculty, and community access to entrepreneurial programming and to increase our innovation activities. Entrepreneurialism and innovation will also be at the core of our teaching and learning by supporting our students and community members as they seek to create new opportunities in the business world.***

  Working in Partnership

- ***Developing with partners in Vaughan an integrated, interdisciplinary health precinct that will serve the needs of a growing region, while creating synergies for health-related research, teaching, and innovation***

  Schulich's MBAt degree program will be aligned with and serve York's long-term vision to be a technology hub in the city of Vaughan addressing Ontario's opportunity in this domain. The MBAt will help develop individuals that will create and implement technology solutions to address business and societal challenges.

York's Strategic Mandate Agreement for 2020-2025

The proposed MBAt also aligns with York University's Strategic Mandate Agreement on many fronts. The emphasized program areas of strength and growth listed in the SMA 3 include business, management, marketing, and related support services and the university expects these clusters of programs to be significant drivers of enrolment in the coming years. The MBAt aims to contribute to this growth at the graduate level. By providing a net addition to the University's masters complement, it will help the University to address its goal of enhanced graduate studies and reaching the masters-level enrolment target. The MBAt will also contribute to positive economic outcomes for its graduates, aligning postsecondary education with labour market outcomes, and expanding access to leadership training for technologists, which will help the University meet the growing demand for graduates with technology skills. In sum, the program is a manifestation of York University's focus and specialization at the intersection of engineering, management and technology.

Schulich's MBAt will also contribute to specific metrics in the SMA:

- *Graduate employment rate in a related field*: we expect that 90% of Schulich's MBAt graduates will find jobs in technology roles within 3 months of graduation. This is based on extrapolation of our current MBA graduates across specializations.

- *Institutional strength and focus*: This technology management degree reflects York university's strength and focus in engineering, artificial intelligence applications and business.

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- *Graduation rate*: We expect a very high graduation rate given the 16-month duration of the program, and the high-quality student services support available.

- *Experiential learning*: In addition to a range of course-embedded experiential learning activities, a mandatory internship is required for all MBAt students, as is a technology-related integrated field project where they work with organizations to develop and implement technology solutions for clients.

- *Graduate employment earnings*: We expect the average starting salaries to reflect a graduate degree from a prominent business school, with significant opportunities for growth.

- *Skills and competencies*: Schulich's MBAt graduates will have in-demand skills and competencies in many areas, including an understanding of technology, innovation, public policy evaluation, performance metrics and strategy/leadership for the growing technology sector.

Faculty Goals

Schulich's academic plan calls for the School to be global, innovative, and diverse, and the MBAt program will add to this mandate by bringing a unique and high-quality program to an important local, national and international markets that lack an adequate supply of high-quality management training options in this growing field. The program offers graduate-level management education to academically strong individuals who need of managerial training and experience, and it will offer this preparation to a diverse group of students from varying backgrounds.

The MBAt will also contribute to achieving the following priorities outlined in the School's institutional plan:

- Experiential Learning: Maintain/Develop excellent experiential education through internships, exchanges, visits by industry leaders and program redesign
- Ensure continued global recognition of Schulich as a knowledge leader in external business
- Develop and implement plans to grow local and national as well as international recognition of the reputation of Schulich, its faculty and students with governments and in the external business community
- Maintain and expand local and national partnerships with all levels of government, with the business community and with the academic community, and with previously underserved communities, including support for and expansion of entrepreneurial activity

The program furthers the Faculty's shared goals of pedagogical innovation through the use of experiential, community-involved, and high impact teaching practices. For

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example, MBAt students will be required to work on a mandatory internship in technology organization or in a non-technology organization but in a technology role. Further, they will also be tasked with developing innovative technological solutions for real-world clients.

The MBAt will also help the School absorb graduates from its direct-entry programs in emerging management areas, thereby creating a pipeline of continuing education that begins with an undergraduate degree, moves on to a one-year specialized masters degree, and culminates in the MBA. Schulich shares York's commitment to ensuring that graduates are able to articulate the relevance and value of their education to a wide range of employers and can move into their desired careers and be adaptive to the changing nature of their careers over time. A key priority for the School is to ensure we provide all of our graduates with the knowledge, experience, and transferable skills they need to adapt and thrive in a rapidly changing future labour market. The MBAt will focus on teaching durable skills and relevant competencies that employers consistently identify as important: communication, digital literacy, effective collaboration with others, ethical judgment, project management, creativity, and resourcefulness in solving problems. These skills are crucial to ensuring the versatility and flexibility that graduates will need to succeed in multiple jobs throughout their careers. The MBAt will offer specific and rigorous courses in all of these areas.

2.2   Program Requirements (QAF2.1.2.2)

Describe: How the program's structure and requirements meet the program objectives and program-level learning outcomes

How the program's structure, requirements and program-level learning outcomes ensure students meet the institution's Undergraduate or Graduate Degree Level Expectations

How the proposed mode(s) of delivery facilitate the students' successful completion of the program-level learning outcomes; and

The ways in which the curriculum addresses the current state of the discipline or area of study.

NOTE: Ensure that the proposal makes a clear distinction between program objectives and program-level learning outcomes. Guidance on program objectives and program-level learning outcomes, including examples, is available here. It may be helpful to include a table that maps program requirements (i.e., courses, experiential education requirements, theses or major research projects) to program objectives and program-level learning outcomes.

(Source: https://oucqa.ca/guide/program-objectives-and-program-level-learning-outcomes/)

Figure 1: Overview of the Program Structure

The underlying logic for the program structure (i.e., the courses and the manner in which they are sequenced) is articulated in the following figure:

Pre-Start Advance Preparation
(**Developing BackgroundKnowledge**)

↓

TERM 1 of 4: September to December
(**Key Trends in the External Environment**)

↓

TERM 2 of 4: January to April
(**Digital Transformation of Business Functions**)

↓

TERM 3 of 4: May to August
(**Technology and Digital Transformation – The Cutting Edge**)

↓

TERM 4 of 4: September to December
(**Developing a Digital Strategy**)
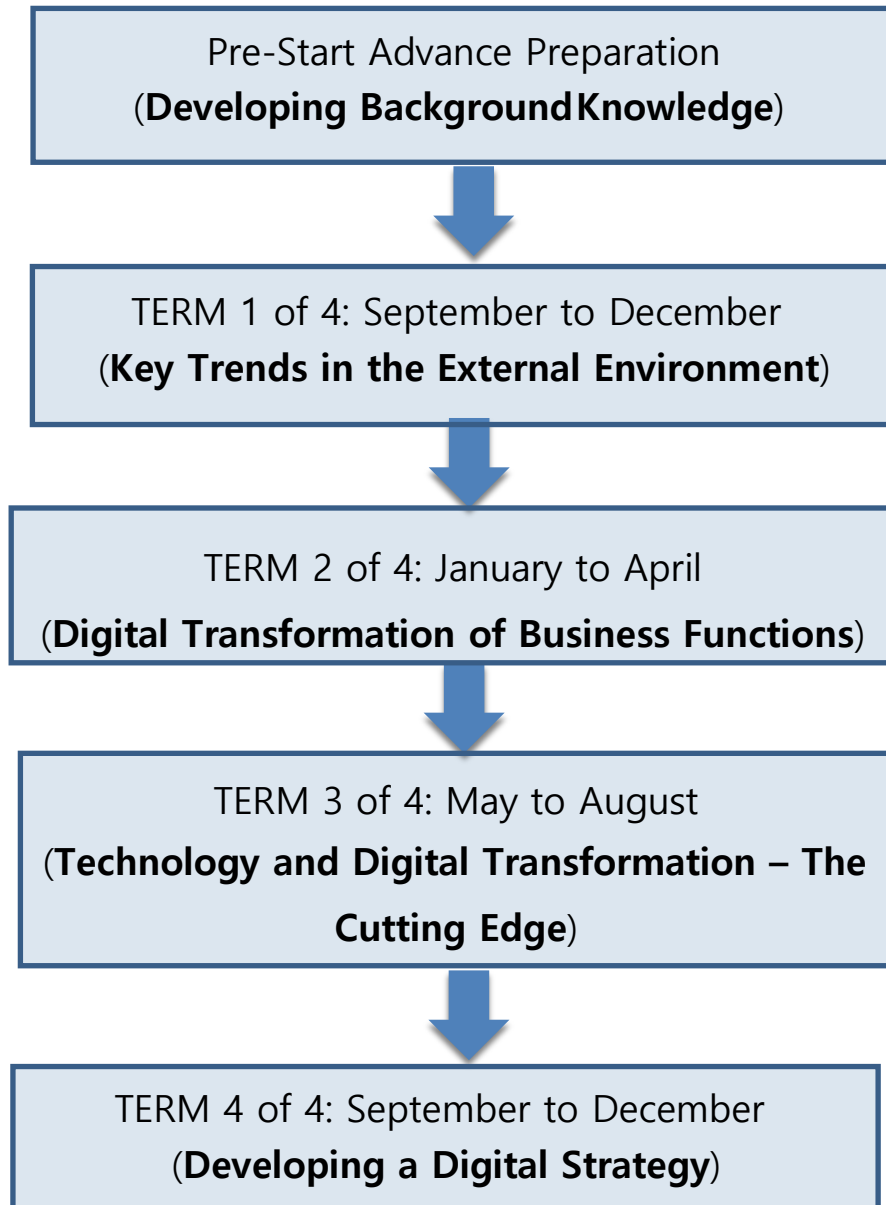
Term 1: The focus in this term is to expose students to key trends in the external environment, that is, the environment that is external to the organization. As such, they will learn about the normative, regulatory, economic, and customer environments with a particular emphasis on how these trends are impacting technology companies and technology-enabled roles.

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Term 2: In this term, the focus will shift to the internal functions of the organization. As such, students will learn how technology generally, and digital transformation more particularly, is altering practices in domains such as accounting, finance, operation, and human resources. In addition to learning about the changes, students will also gain knowledge on how to manage these changes for effectiveness and efficiencybenefits.

Term 3: In this term, students will acquire in-depth knowledge in specific technological domains. As well, they will work on their mandatory internship within technology enabled organizations. The objective of the internship is for students to become exposed to implementation and strategic issues associated with technology. Companies that are in the midst of digital transformation initiatives will be identified and selected for the mandatory internships.

Term 4: In the final term, students will take a course in strategy. The intent of this course is to enable them to transform their organization's technology into a source of competitive advantage within their organizations around why technological innovations are necessary from a competitive advantage perspective. In addition, students will take the Venture Studio course, the purpose of which is to instill in them a start-up mindset. To achieve this, students will work either with a stand-alone start-up or one that is part of a larger organization. In either case, the focus of the business entity is on developing novel technological solutions and business models to address on-going business problems. The two courses in combination – one theoretical and the other practical—will give students a powerful lesson in how technology can generate competitive advantage fororganizations.

As indicated in Figure 1, students prior to beginning the program, will be learning the language and mindset of business through online modules on business fundamentals and modules on the Business Model Canvas. The Fundamentals of Business piece consists of four separate online modules (covering Accounting, Economic, Statistics and Excel) developed internally by Schulich instructors, with each module having 9-hours of asynchronous delivery and formal assessment at the end. The module on Business Model Canvas that lays the foundation for how an organization creates, delivers and captures and captures value will be developed by a Schulich instructor and will have 9-hours of asynchronous delivery and a formal assessment. This is especially necessary given their non-business backgrounds and work experience. The idea is for students to have the requisite background knowledge to facilitate absorption of the materials they will engage with during formal coursework (Term 1 onwards). The students will have to successfully complete the online modules on business fundamentals and the module on the Business Model Canvas prior to enrollment in the first term.

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Program Structure

Figure 2

Figure 2

MBAt Program Structure

TERM 1: (Sept to Dec) *(Key Trends in the External Environment)*		TERM 2: (Jan to Apr) *(Digital Transformation of Business Functions)*	TERM 3: (May to Aug) *(Technology and Digital Transformation – The Cutting Edge)*	TERM 4: (Sept to Dec) *(Developing a Digital Strategy)*
SUST 5100: Ethics and Technology		ACTG 5201: Reporting and Control in Technology Firms (3.0)	Elective 1 (3.0)	SGMT 6010: Strategy in the Digital Age (3.0)
OMIS 5100: Emerging Technologies and the Changing Landscape of Business (3.0)		FINE5201: Digital Finance (3.0)	Elective 2 (3.0)	MGMT 6110: Venture Studio: The Acceleration Mission (6.0)
ECON 5110: Digital Economics (3.0)		OMIS 5201: Digitizing Supply Chain Operations (3.0)	MGMT 5300: Mandatory Internship (6.0)	
MKTG 5100: Unlocking Value for Customers Through Technology and Digital Transformation (3.0)		ORGS 5201: Leading and Managing Digital Transformation (3.0)		
MGMT 5190:Professional Development Hive (1.5)	MGMT 5110: Technology Firms and the Global Environment (1.5)	MGMT 5290: Professional Development Hive (1.5)		
Credits: 15		**Credits: 13.5**	**Credits: 12**	**Credits: 9**

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Total Credits: 49.5

Program Learning Outcomes

The learning outcomes for the program are detailed below. They have been mapped against the program's courses (see Appendix 4 for the MBAt curriculum map) and the Ontario degree level expectations (see Appendix 5). Assessment of the program's outcomes has also been mapped out in Appendix 6. The Schulich Master Programs Committee, the Committee for Equity and Community, and Faculty Council, will be charged with reviewing these objectives on a periodic basis under the guidance of the program director.

The program's learning outcomes are as follows:

• **Goal 1: Core Business Knowledge & Understanding**

  1.1 Demonstrate knowledge of the main theories, concepts, methods, and current issues in each of the major functional disciplines of management as they are practiced within the digital world

• **Goal 2: Critical Analysis & Decision-Making**

  2.1 Identify and analyze complex, cross-functional management problems using ambiguous qualitative and quantitative data in the context of technology and digital transformation initiatives.

  2.2 Effectively lead technology and digital transformation initiatives from startup to completion.

• **Goal 3: Professional Communication**

  3.1 Create and deliver effective and engaging presentations.

  3.2 Successfully carry out negotiations.

  3.3 Work effectively in interdisciplinary and cross-cultural teams.

• **Goal 4: Responsible Business**

  4.1 Derive innovative solutions and implementation plans for complex management problems that create sustainable value for all stakeholders taking into account ethical, social, DEI, and environmental issues in the context of technology and digital transformation initiatives.

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- **Goal 5: Global Perspective**

    5.1 Evaluate issues and potential approaches to decision-making in technology and digital transformation initiatives in the global context.

Course Work

The program will require students to complete 49.5 credits over four terms of full-time study. The curriculum comprises 15 courses (13 core and 2 electives) that range in credit value from 1.5 to 6.00. Term 1 = 15 credits; Term 2 = 13.5 credits; Term 3 = 12 credits; and Term 4 = 9 credits – for a total of 49.5 credits. All the 13 core courses are being newly designed. The 2 electives will be sourced from the existing pool of courses offerings in the Master of Business Analytics and the Master of Management in Artificial Intelligence programs at Schulich. The short descriptions of all the courses in the program can be viewed in Appendix 3. The full set of course outlines and proposal forms can be found in Appendix 10.

Note: In addition to the required courses and the 2 pre-determined electives mentioned above, MBAt students will be allowed to register for MBA electives in Terms 3 and 4 but NOT allowed to take courses from other Schulich Graduate Programs.

Mode of delivery

The program outcomes will be achieved via a course-based and primarily in-person delivery format. The nature of the coursework varies, depending on the expected learning outcomes for each course. In-person lectures and learning activities will be complemented with synchronous and asynchronous virtual learning opportunities embedded within each course (e.g., live and/or recorded interactive lectures in the flipped classroom format, along with other learning activities that help develop understanding of course concepts as well as promote teamwork and collaboration). Other learning activities include case analysis and discussion, teamwork exercises, guest speaker presentations, simulations, and outreach to external organizations.

Experiential Education

The program makes an explicit commitment to experiential learning. This includes a commitment to devoting 30% of total time to experiential learning initiatives in each course, development of sustained relationships with practitioners in the classroom, a mandatory workplace internship, and a project designed to add value to real-world clients involving the creation and implementation of a technological solution to a business problem.

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Program Requirements for graduate programs only (QAF 2.1.2.3)

Provide a clear rationale for program length that ensures that students can complete the program-level learning outcomes and requirements within the proposed time period. Provide evidence that each graduate student is required to take a minimum of two-thirds of the course requirements from among graduate-level courses.

For research-focused graduate programs, provide a clear indication of the nature and suitability of the major research requirements for degree completion

The program consists of 49.5 credits in total and is designed to be completed within 16 months. Students will complete between 9-15 credits per term, a manageable course load that will help ensure they are able to achieve the program-level learning outcomes and requirements within the 16 months time frame. All courses students will take in this program are graduate-level courses.

This is also professional rather than a research-focused program. Therefore the focus will be on coursework and completion of the experiential learning courses (MGMT 5300: **Mandatory Internship (6.0) and MGMT 6110: Venture Studio: The Acceleration Mission (6.0).** The nature of the assignment in the capstone course is such that students can complete it within one 12-week term. Schulich has not experienced issues with students in its other capstone consulting courses being unable to complete the work within the established timeframe.

2.3 Assessment of teaching and learning (QAF 2.1.2.4)

Describe the methods for assessing student achievement of the program-level learning outcomes and degree level expectations and the appropriateness of these methods.

Describe the program's plans to monitor and assess:

i. *The overall quality of the program;*
ii. *Whether the program is achieving in practice its proposedobjectives;*
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.*

NOTE: In this section, the proposal should again make a clear distinction between program-level learning outcomes, program objectives, and degree-level expectations. Additionally, programs should ensure that the plans for monitoring and assessing student achievement provide an assessment of students currently enrolled as well as post-graduation metrics. Please see Guidance on Assessment of Teaching and Learning for advice from the Appraisal Committee on how to satisfy these criteria.

The grading and assessment process will be consistent with that are used in other Schulich master's programs. Overall course grades will be based on the student's

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performance on the various assessments of the courses, including written assignments, case analyses, teamwork, presentations, examinations (mid-term tests and final examinations), and their contribution to class participation and learning. Assignments, exercises or exams will also serve to assess the achievement of the learning outcomes.

Please see the program's curriculum map in Appendix 4 for courses in which learning outcomes will be assessed.

The program has also established a detailed assurance of learning (AoL) plan for the purposes of demonstrating and documenting students' performance levels with respect to the program's learning outcomes and DLEs. Each program-level learning outcome will be measured by an individually completed assessment embedded in a particular course throughout the curriculum (see a list of final assessments in Appendix 6). Student performance on these final assessments will be assessed against pre-established performance benchmarks, conveyed through the use of rubrics where appropriate.

The assessment of students' performance levels with regard to learning outcomes will be supported by Schulich's learning management system, Canvas. This system offers learning outcome functionality in which outcomes can be set and aligned at both the course and program levels, and assessments can be aligned to outcomes through the use of course-specific or program-wide grading rubrics. The grading of student work in Canvas results in the automatic collection and compilation of data on student progress and allows for the tracking and reporting of performance levels to support the enhancement of curriculum and teaching, the identification of at-risk students, and reporting requirements for accreditation processes.

The performance data will serve as the basis of the program's assurance of learning plan, enable evidence-based decision-making with regards to the identification of gaps in student performance in relation to the expected learning outcomes, and enable the 'closing of the loop' on its curricular improvement initiatives (course or program level modifications) undertaken to address these gaps. The student performance data from Canvas will be used to prepare assurance of learning reports for the program director to review after the completion of each academic year. These reports will indicate student performance data on the assessments tied to each outcome, and when compared against the program's benchmarks for achievement, are intended to serve as a guide for the program director in determining whether any course and program modifications may be needed to better enable students to achieve the learning outcomes of the program.

2.4 Admission Requirements (QAF 2.1.2.5)

Describe the program's admission requirements and their appropriateness, given the program objectives and program-level learning outcomes.

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Provide an explanation of any applicable alternative admission requirements, e.g., minimum grade point average, additional languages or portfolios, and how the program recognizes prior work or learning experience.

The minimum admission requirements are as follows:

- An undergraduate degree from a recognized post-secondary institution with a minimum B average in the last two full years (or equivalent) of academic work. Three-year cycle undergraduate degrees from institutions that meet the criteria set forth in the Bologna Declaration may be acceptable as the equivalent of an undergraduate honours degree.

- 2 to 5 years of work experience in technology firms and/or in technology-enabled roles in non-technology firms is required.

- Alternate admissions requirement: Graduates with other 3-year degrees may be admitted as well. All graduates with 3-year degrees must possess at least three years of post-graduation work experience in a sector relevant to theprogram.

- Proof of English language proficiency if prior studies were not completed in English:

  - TOEFL (iBT): 100 with minimum component scores of 23 or IELTS: 7.0 overall with minimum component scores of 6.5.

- A supplementary application form that shows strong evidence of leadership ability.

- Two letters of recommendation. It is recommended that one of these is from a professor.

- A panel interview with Student Services, Career Services, and the Program Director.

2.5 Resources (QAF 2.1.2.6)

Given the program's planned / anticipated class sizes and cohorts as well as its program-level learning outcomes:

a) Provide evidence of participation of a sufficient number and quality of core faculty who are competent to teach and/or supervise in and achieve the goals of the program and foster the appropriate academic environment;

NOTE: It may be helpful to create a table or map detailing faculty teaching assignments.

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Enrolment Projections & Class Sizes

The School plans to launch the program in the Fall of 2023 with an initial class size of approximately 30-35 students. First-year enrolment will be capped at 55 students. This target is reasonable and achievable since a significant proportion of students enrolled in our current MBA program (over 50%) have STEM background, and this new MBAt program will be attractive to this group of students. In fact, four new courses offered as part of the Digital Transformation specialization in our existing MBA program in the 2021/22 academic year have been fully subscribed. This is a strong indicator of potential demand for MBAt. The expected steady-state maximum enrolment target is one full class (55 students).

Full-Time Format

The MBAt will be launched as a full-time program only. However, terms 3 and 4 will be heavily focused on experiential learning (mandatory internship in term 3 and a capstone integrated field study in term 4).

Housing of Courses within the School

All courses in the MBAt program will be housed within Schulich School of Business. All 13 core courses in the program are developed and taught by full-time Schulich full-time faculty. The two elective courses will come from the OMIS Area of the school and will be courses currently offered in the Master of Business Analytics (MBAN) and Master of Management in Artificial Intelligence (MMAI) programs.

Teaching Resources

One of Schulich's greatest strengths is the wide breadth of knowledge and experience of its faculty, which includes specialists in all areas of management in every type of organization as well as those who are experienced with the broader strategic

overview that is necessary for successful management in both public and private realms. As well, Schulich is one of the very few business schools that has experts in areas such as sustainability, ethics, digital transformation, supply chain, artificial intelligence, and health care, to cite a few.

The resources for this program will be drawn from the general resource base of the Schulich School. Although 13 new courses will be required for each entering cohort of 55 students, it is expected that financing for these courses will be derived mainly from the additional revenue thereby generated. Appendix 7 provides a list of the program's core courses with potential instructor assignments. As the list indicates, the program will also be taught predominantly by full-time faculty members. Once the program reaches steady-state enrolment, Schulich plans to hire new faculty members with synergistic research and teaching backgrounds. Over time, growth in hiring will correspond to growth in enrolment.

b) *Describe the provision of supervision of experiential learning opportunities, if applicable;*

The professional development course and the placements for the mandatory internship will be coordinated by Dr. Minerva Cernea, Associate Director and head of the Professional Development and Experiential Education Office for the Schulich School of Business, with the help of the MBAt program office, which will be responsible for sourcing the internship placements.

The capstone integrated field study course will be taught by an experienced Adjunct Professor who also holds the role of Executive Director of the Office of Innovation & Entrepreneurship. The Director has significant experience guiding students through capstone projects and is very familiar with the kinds of issues that can arise and the kinds of support students need to complete their projects successfully.

One concern that was raised regarding experiential learning opportunities pertains to the potential challenges that students from equity-deserving groups might face while they were engaged in experiential learning opportunities. Challenges such as working in non-inclusive workplace cultures, for example, are likely to be a significant impediment to meaningful learning for students from equity-deserving groups.

Our approach to help mitigate potential challenges faced by students from equity-deserving groups is multi-faceted. First, we will educate the students. EDI topics are embedded in the curriculum, which will increase knowledge and awareness of these issues. For example, the course called Leading Digital Transformations contains a learning outcome stating that students will learn to "understand and design diversity and inclusion practices in organization." Several classes will be devoted to this learning outcome, which will help students recognize organizational practices which support or constrain equity and diversity initiatives.

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Second, our student interns will have full protection under federal labour standards articulated by part 3 of Canada's Employment Code. The provisions in the code, as well as the Ontario Human Right Code, serve to protect those from equity-deserving groups from various workplace challenges while also providing protection from reprisal in the case of complaints. Finally, we carefully manage the expectations of organizations that employ and support our students. Schulich has a long history of experiential education in the current MBA program, with students required to take a mandatory 8-month consulting project in a real organization. In combination, our students' knowledge of EDI topics, legal protections, and client management practices should serve to assist our equity deserving students and provide the supports needed to succeed.

c) Describe the administrative unit's planned use of existing human, physical and financial resources, including implications for other existing programs at the university;

Physical Space

Given the expected initial size of the program, space constraints are not an issue. The program will be housed in the newly constructed Rob and Cheryl McEwen Graduate Study & Research Building, which added 3 large classrooms (one with hyflex technology) and 4 seminar rooms to the number of existing classrooms already available. Adjacent to these classrooms are 8 small group breakout rooms where teams can prepare their group assignments. With the addition of the new building, space will not be a concern for the program for the foreseeable future.

Staff Resources

Beyond course teaching, other resources necessary to support the program will include a program office responsible for sourcing all experiential learning vehicles (e.g., internships, startup studio/product studio sites) and building close relationships with program graduates who will then serve as mentors to new students.

Other support services will be the library, information technology, career services and student and enrolment services, all of which exist at Schulich and serve its other degree programs.

We also anticipate needing one additional academic recruiter to support the recruitment of students to the program.

d) Provide evidence that there are adequate resources to sustain the quality of scholarship and research activities produced by students, including library support, information technology support, and laboratory access; and

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Please see the attached library statement in Appendix 8 which indicates that York University Libraries is well positioned to support the curriculum and research needs of students and faculty in the proposed program.

e) *If necessary, provide evidence of additional institutional resource commitments to support the program in step with its ongoing implementation.*

We anticipate two changes at Schulich, both of which will free up the resources needed for the MBAt:

- Declining enrollments in the MBA: We have noted a steady decline in enrollments in the MBA over the past 5 years. Data on the number of GMAT test takers (the GMAT being an entry requirement for the MBA) also shows a continued drop, thereby suggesting that we will need fewer sections in the MBA than we have at present.
- Reorganization of the BBA: We are in the midst of reorganizing the undergraduate program at Schulich. This re-organization will also free up considerable faculty resources.

Given these changes, we do not anticipate resource challenges in terms of delivering the MBAt program.

2.6 Resources for graduate programs only (QAF 2.1.2.7)

Given the program's planned/anticipated class sizes and cohorts as well as its program-level learning outcomes:

Provide evidence that faculty have the recent research or professional/clinical expertise needed to sustain the program, promote innovation and foster an appropriate intellectual climate;

Where appropriate to the program, provide evidence that financial assistance for students will be sufficient to ensure adequate quality and numbers of students; and

Explain how supervisory loads will be distributed in light of qualifications and appointment status of faculty who will provide supervision.

As this is not a research-based program, no special financial support will be provided other than the financial aid and scholarships that are generally available to Schulich masters-level students. Similarly, there is no need for research supervisors.

On this point, it is important to note that Schulich faculty are active contributors to the development of research in the intellectual areas that inform the MBAt. We have world-leading research scholars in specific areas, such as fintech and big data, who are also teaching in the program. The theme of leadership in the technology space is also of

interest to several of our faculty members that are teaching in the program (see table below).

TOPIC	SCHULICH RESEARCHERS – ALSO TEACHING IN THE PROGRAM
FinTech	Pauline Shum Nolan (https://schulich.yorku.ca/faculty/pauline-m-shum/) Kiridaran (Giri) Kanagaretnam (https://schulich.yorku.ca/faculty/kiridaran-giri-kanagaretnam/)
Big Data Analysis	Henry Kim (https://schulich.yorku.ca/faculty/henry-m-kim/) Murat Kristal https://schulich.yorku.ca/faculty/murat-kristal/
Technology Leadership	Kevin Tasa https://schulich.yorku.ca/faculty/kevin-tasa/

In sum, the program has the resources to ensure that cutting-edge knowledge is delivered to the students.

2.7 Quality and other indicators (QAF 2.1.2.8)

Provide evidence of 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); and

Provide any other evidence that the program and faculty will ensure the intellectual quality of the student experience.

NOTE: This section is distinguished from Section 2.6 (QAF 2.1.2.6 a)) in its focus on the quality of the faculty and their capacity to ensure the intellectual quality of the student experience, whereas Section 2.6 (QAF 2.1.2.6 a)) addresses whether sufficient numbers of core faculty are available to cover the program's teaching/supervision duties.

The MBAt faculty primarily consists of existing full-time faculty from all core areas including accounting, marketing, supply chain, data analytics, and strategy and leadership who will ensure that the content in their courses emphasizes management and leadership in technology and digital transformation initiatives. Since this is an applied degree with coursework only, we have also endeavored to incorporate the rapidly changing applied content where all courses will have formal continuous involvement with practitioners who have real world experience in technology and digital transformation initiatives. The vast majority of the program faculty (see Appendix 7) are established researchers who are leading experts in their fields.

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        Appendix 1b: Provost's Initial Letter of Support
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Appendix 4: Curriculum Map
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Appendix 6: Mapping of Program Level Learning Outcomes to Assessments
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Additional Attachments: Faculty CVs

*Appendices denoted in red text not copied for Senate; available upon request from the University Secretariat

Memorandum

To: Lyndon Martin, Vice-Provost Academic
CC: Emily Rush, Thomas Loebel, YUQAP
From: Detlev Zwick, Dean, Schulich School of Business
Date: January 11, 2022
Subject: Statement of Support for the MBA Program in Leading Technology-Enabled Organizations (MBAt)

I am in full support of the MBA program in Leading Technology-Enabled Organizations (MBAt) at Schulich. I believe the proponents have a clear vision and rationale for the proposed program. The proposed program is the outcome of in-depth engagement with the global and local business community and responds to the need for a skillset amongst management leaders which has become even more urgent in the context of the rapid technological disruptions underway. Key features of the program, including i) its strong experiential learning components, ii) its potential to embed blended delivery modes and iii) its focus on ensuring that graduates are employment ready, align well with the School's and the University's strategic plans. Moreover, as the proposed MBAt brings together in one program key strengths for which Schulich is globally recognized, its impact on resources will not be over and above what is expected of any new program delivered by the School. Thus, I am fully confident about the program's ability to sustain itself resource wise.

Detlev Zwick, PhD
Dean & Tanna H. Schulich Chair in Digital Marketing Strategy
Schulich School of Business

-

Memorandum

YORK U UNIVERSITÉ UNIVERSITY

OFFICE OF THE PROVOST & VICE-PRESIDENT ACADEMIC

9TH FLOOR KANEFF TOWER
4700 KEELE ST.
TORONTO ON
CANADA M3J 1P3
T 416 736 5280

To: Martin Bunch, Chair, ASCP

From: Lisa Philipps, Provost & Vice-President Academic

Date: June 16, 2022

Subject: MBA in Leading Technology-Enabled Organizations

I have reviewed the materials for the proposed professional Master of Business Administration in Leading Technology-Enabled organizations (MBAt). This memo is my signal of strong support for this innovative program which builds upon the strength of existing programs in the School of Business and York University. This new program is strongly aligned with the University's Academic Plan in its view toward experiential and professional learning, and in its focus on problem-solving skills and collaboration across disciplines.

The MBAt is designed to offer employment-ready training to students with technical and STEM backgrounds to build management expertise with a "startup mindset" that will equip graduates with the methods and orientation for leadership roles in technology-enabled organizations. With strong commitments to equity, diversity and inclusion and to minimizing environmental impact, this professional training program is unique in Canada in responding to an industry-identified need for people who can create business value from technologies.

This program makes excellent use of resources that are in place already within the Business School and builds on the expertise of full-time faculty in aligned areas. At its launch in 2023, the program will be ready to accept 30-35 full-time students, with a cap of 55 students when steady-state enrolment is achieved. Existing student and career services, library and IT access and physical space are sufficient to support this new degree.

With a strong emphasis on experiential education, a core of professional development courses and a field study component to the capstone project, the MBAt offers a full-time, 16-month program that will foster intra-organizational collaboration and innovative solution-finding and implementation. Reflecting the priorities addressed in the University's 2020-2025 Academic Plan, this graduate program particularly manifests the concerns for 21st Century Learning in its emphasis on experiential learning, flexible delivery options and developing local partnerships.

I look forward to receiving the reviewer's reports and to submitting the final proposals for approval to Senate, Quality Council and the Ministry of Colleges and Universities in due course.

SN	NAME	TITLE	INFORMATION
1	**Tristan Cammaert**	Partner. Financial Services, Digital Transformation & Innovation	https://www.ey.com/en_ca/people/tristan-cammaert
2	**Vik Pant**	Partner. Artificial Intelligence	https://www.linkedin.com/in/vikpant/?originalSubdomain=ca
3	**John Ruffalo**	Founder and Managing Partner, Maverix Private Equity	https://www.linkedin.com/in/joruffolo/?originalSubdomain=ca
4	**Kishore Moorjani**	Former Senior Managing Director at The Blackstone Group	https://www.linkedin.com/in/kishore-moorjani-b42a0a9/
5	**Sean Miletello**	Project Manager and Leader Developer, Gingko Sustainability Inc.	https://www.linkedin.com/in/smilitello/?originalSubdomain=ca
6	**Sharon Joseph**	CEO and Founder, Crewasis	[https://www.linkedin.com/in/sharonemilyjoseph/;](https://www.linkedin.com/in/sharonemilyjoseph/) https://crewasis.com/
7	**Lisa Marie Chen**	Design Program Director, Business Automation at IBM	https://www.linkedin.com/in/lisamariechen/?originalSubdomain=ca https://schulich.yorku.ca/faculty/lisa-marie-chen/
8	**Cortney Mills**	Transformation and Special Projects Manager, North America at Thales	[https://www.linkedin.com/in/cortney-mills/?originalSubdomain=ca;](https://www.linkedin.com/in/cortney-mills/?originalSubdomain=ca) https://www.thalesgroup.com/en/americas/canada
9	**Alexandra Smith**	Regional Vice President Customer Success Brazil at Salesforce	https://www.linkedin.com/in/alexandra-smith-

		83	[705578/?originalSubdomain=br](#)
10	**Michon Williams**	VP, Technology (Product & Delivery) @ Walmart Canada	[https://www.linkedin.com/in/michonwilliams/?originalSubdomain=ca](#)
11	**Ashley Hilkewich**	Chief Development Officer, Campfire Circle	[https://www.linkedin.com/in/ashleyhilkewich/?originalSubdomain=ca](#)
12	**Ali Khan**	Assistant Vice President, Process Design, Architecture, and Automation at Sunlife Canada	[https://www.linkedin.com/in/alikhantoronto/?originalSubdomain=ca](#)
13	**Keri Damen**	Executive Director, Hunter Hub, at the University of Calgary	[https://www.ucalgary.ca/hunter-hub/about/our-team/keri-damen](#)

Appendix 2: Technology Focused Programs in the North American Landscape

Appendix 2.a: STEM Certified Technology Focussed MBAs

	University	Faculty/ Department / School	Program Title	Program Details	Additional Notes
1.	**Cornell University**	*Cornell Tech* Samuel Curtis Johnson Graduate School of Management	**Johnson Cornell Tech MBA**	Program Length - The program is a one-year, full-time, residential MBA program and is geared towards working professionals (3 semesters)	4 concentrations: - Clinical Epidemiology and Health Care Research; - Health Services Research; - Quality Improvement and Patient Safety; - System Leadership and Innovation
2.	**Columbia University**	Columbia Business School	**Master of Business Administration**	Program Length - 60 credits (a minimum of 54 MBA classroom based credits) to graduate (core curriculum consists of two full-term courses and eight half-term courses)	- In-person only program - Students are not required to take 15 credits persemester
3.	**New York University**	Leonard N. Stern School of Business	**Tech MBA (NYU Stern's Andre KooTech MBA)**	Program Length - A one year program, running May to May (52 credits)	- The curriculumhas four major components: The Business Core, The Technology Core, Stern Solutions, and Electives - Experiential learning opportunities to design, build, and

#	University	Faculty/ Department / School	Program Title	Program Details	Additional Notes
					launch technological solutions
4.	**Northwestern University**	Kellogg School of Management	**The Kellogg & McCormick MBAi Program**	<u>Program Length:</u> Program can be completed over four semesters (enables students to work full-time while completing the program in 16 month)	- A joint degree between Kellogg and the McCormick School of Engineering

Appendix 2.b: Specialized Masters Programs in Technology and Entrepreneurship

#	University	Faculty/ Department / School	Program Title	Program Details	Additional Notes
1.	**University of Waterloo**	Graduate Studies and Postdoctoral Affairs	**Business, Entrepreneur-ship and Technology - MBET at Waterloo**	<u>Program Length</u> offered in 2 formats: - full-time program completed in one year - part-time program completed in three years	- Entrepreneurship masters program that combines interdisciplinary courses with practical experiences in venture creationand commercialization
2.	**Queen's University**	Smith School of Business	**Master of Management Analytics MMA**	<u>Program Length</u> 12 month program offered in 2 formats: - classroom - blended learning	- Each format includes two one-week residential sessions at Smith School of Business facilities to deepen knowledge and network with classmates

3.	**University of Maryland**	Robert H. Smith School of Business	**Master of Science in Marketing Analytics MSMA**	Program Length: 2 or 3 semesters	- Program is only offered full time
4.	**University of Toronto**	Rotman School of Management	**Master of Management Analytics MMA**	Program Length Full-time program one academic year that runs from August to the end of June	- Program includes Management Analytics Practicum

Master of Business Administration Technology (MBAt) Course Summaries

<u>**Term 1 (Fall) (15 credits):**</u>

SB/SUST 5100 3.0: Ethics and Technology

This course explores the ethical underpinning of several technological issues including Artificial Intelligence, Privacy, Machine Replacement, etc. Students will seek to understand the implications of such technological developments on society, and to manage employees and organizations in a way that balances the tension between technological advancement and human ethics.

SB/OMIS 5100 3.0: Emerging Technologies and the Changing Landscape of Business

This course will train aspiring technology managers and entrepreneurs to think systematically about the interplay between emerging technologies and the business landscape. Students will learn management and strategic-level implications of AI and blockchain applications such as autonomous vehicles, 3D printing and robotics, as well as cryptocurrencies and NFTs. The course culminates with an innovative use case/business model pitch competition.

SB/ECON 5110 3.0: Digital Economics

The digital economy, broadly defined as an economy based on digital goods and services, is built on the foundations of Information and Communication Technology (ICT). The private and public sectors have embraced the digital economy as way to increase benefits, efficiency, and competitive advantage. This course introduces the basic micro and macroeconomic concepts underlying the digital economy.

SB/MKTG 5100 3.0: Unlocking Value for Customers Through Technology and Digital Transformation

This course provides students with the latest conceptual frameworks and analytical tools for marketing decision making in industries affected by disruptive technologies and digital transformations. It develops a managerial and socio-cultural perspective on technology marketing to unlock consumer value. It teaches students to think independently, empathetically, and ethically in a highly competitive and technological environment.

SB/MGMT 5190 1.5: Professional Development Hive – Part 1

This course is designed to help MBA students acquire skills and knowledge that will facilitate their professional development and increase their employability. The students (1) engage in self-assessment, (2) learn to promote themselves in an efficient manner, (3) design a customised internship/job search strategy and (4) develop their intercultural competence and applied knowledge of equity, diversity, and inclusion.

SB/MGMT 5110 1.5: Technology Firms and the Global Environment

This course provides descriptive and managerial treatment of the scope, nature, opportunities and problems for technology-oriented firms as they navigate a dynamic global environment. Through readings and cases drawn from various countries and industries, the course examines how a multitude of formal and informal institutions, both national and supra-national, influence the competitive landscapes of these firms.

Term 2 (Winter) (13.5 credits):

SB/ACTG 5201 3.0: Financial Reporting and Control in Technology Firms

This course is designed to provide students with an understanding of financial reporting, earnings quality and management control issues in technology firms. Concepts will include preparing financial statements, measures of earnings quality, operational risk, break-even analysis, non-routine decision-making, pricing decisions, operating budgets and budgeted financial statements. In arriving at managerial decisions, all stakeholder interests are considered, including DEI and socially responsible decision making around key issues.

SB/FINE 5201 3.0: Finance in the Digital Age

This course is designed to immerse students in basic decision making and risk management in the financial services industry as it shifts to the digital age. Students will study the different verticals in the ecosystem, the importance of financial inclusion, business models, how technology can improve existing operations and accelerate change, as well as the associated risk and regulations.

SB/OMIS 5201 3.0: Digitizing Supply Chain Operations

Supply chain digitization is the process of turning analog supply chain processes into digital ones by establishing dedicated master data that aggregates information from the entire supply chain, and information from some external sources. In this course, students explore and learn the foundations and components of supply chain digitization and make the connection between the strategy, technology, and implementation.

SB/ORGS 5201 3.0: Leading and Managing Digital Transformations

This course explores individual and group behavior in organizations, with a focus on how to create and lead knowledgeable, diverse and resilient work units. Good leadership skills are needed for business solutions to be accepted and implemented. Thus, the course focuses on the topics of persuasion, decision-making, team dynamics, conflict management, communication and diversity and inclusion.

SB/MGMT 5290 1.5: Professional Development Hive – Part 2

This course builds on the knowledge acquired in MGMT 5190, continuing to help students acquire skills and knowledge that will facilitate their professional development and increase

their employability. The students (1) develop an awareness of the changing professional environment (2) learn how to effectively interact with other professionals in different cultural and organizational settings (3) manage the job negotiation process.

Term 3 (Summer) (12 credits):

SB/OMIS XXXX 3.0: Elective 1 (hyflex)

TBD - J. Rungtusanatham - In term 1, the PD will work with the students and the AD of the OMIS area to identify the exact electives.

SB/OMIS XXXX 3.0: Elective 2 (hyflex)

TBD - J. Rungtusanatham - In term 1, the PD will work with the students and the AD of the OMIS area to identify the exact electives.

SB/MGMT 5300 6.0: Mandatory Experiential Learning

This Graduate Placement is important for the understanding of business norms and practices. Through their Graduate Placement experience, students build upon and practice key learnings from their first year MBA courses, reflect on them, and build an experience relevant for the job after graduation. A minimum of 12 weeks full-time work is required to complete this Graduate Placement.

Term 4 (Fall) (12 credits):

SB/SGMT 6010 3.0: Strategic Management in the Digital Era (hyflex)

This course focuses on strategic management in the digital era. It examines how new business models can lead to innovation, transformation, and disruption as well as the impact of networks, platforms, and technologies such as AI on firm performance. Processes within the firm are examined as well as the competitive environment in order to formulate and execute business-level strategy.

SB/MGMT 6110 6.0: Venture Studio: The Acceleration Mission (Integrated Field Study) [Startup Studio/ Product Studio]

This Work Integrated Learning Course (class + startup/founder placement + dedicated additional mentor model) provides students with the opportunity to learn leading product design/roadmap/management strategies and frameworks for high-growth potential technology firms. Students will further learn how those strategies and frameworks connect directly to the investments placed by Venture (VC) Investors seeking scaling tech 'unicorn' firms.

MBA in Technology Leadership (MBAt) Program Level Learning Outcomes and Curriculum Map

Program Learning Outcomes	T1 SUST 5100 3.0 Ethics and Technology	OMIS 5100 3.0 Emerging Technologies and the Changing Landscape of Business	ECON 5110 3.0 Digital Economics	MKTG 5100 3.0 Unlocking Value For Customers Through Technology and Digital Transformation	MGMT 5190 1.5 Professional Development Hive Part 1	MGMT 5110 1.5 Technology in Global Markets	T2 ACTG 5201 3.0 Financial Reporting and Control in Technology Firms	FINE 5201 3.0 Finance in the Digital Age	OMIS 5201 3.0 Digitizing Supply Chain Operations	ORGS 5201 3.0 Leading and Managing Digital Transformations	MGMT 5290 1.5 Professional Development Hive Part 2	T3 Elective 1	Elective 2	MGMT 5300 6.0 Mandatory Experiential Learning	T4 SGMT 6010 3.0 Strategic Management in the Digital Era	MGMT 6110 6.0 Venture Studio: The Acceleration Mission
Goal 1 of 5 Core Business Knowledge & Understanding (The MBAt Program will…)																
1.1: Equip students with the knowledge of the main theories, concepts, methods, and current issues in each of the major functional disciplines of management as they are practiced within the digital world	I+A	I+A	I+A	I+A	I+A	I+A	I+A	I+A	I+A	I+A	I+A	I+A	I+A	I+D+R+A	I+R+A	I+R+A
1.2: Develop leadership skills and	D				D			D	D						D+R	

Legend: I = Introduced, D = Developed, R = Reinforced, A = Assessed Individually for Achievement

Program Learning Outcomes	T1 — SUST 5100 3.0 Ethics and Technology	OMIS 5100 3.0 Emerging Technologies and the Changing Landscape of Business	ECON 5110 3.0 Digital Economics	MKTG 5100 3.0 Unlocking Value For Customers Through Technology and Digital Transformation	MGMT 5190 1.5 Professional Development Hive Part 1	MGMT 5110 1.5 Technology in Global Markets	T2 — ACTG 5201 3.0 Financial Reporting and Control in Technology Firms	FINE 5201 3.0 Finance in the Digital Age	OMIS 5201 3.0 Digitizing Supply Chain Operations	ORGS 5201 3.0 Leading and Managing Digital Transformations	MGMT 5290 1.5 Professional Development Hive Part 2	Elective 1	Elective 2	T3 — MGMT 5300 6.0 Mandatory Experiential Learning	T4 — SGMT 6010 3.0 Strategic Management in the Digital Era	MGMT 6110 6.0 Venture Studio: The Acceleration Mission
competencies in the context of technology and digital transformation initiatives																
1. 3: Develop teamwork skills and competencies in the context of technology and digital transformation initiatives	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+R+A	I+D+R+A	I+D+R+A
Goal 2 of 5: Critical Analysis & Decision-Making (The MBAt Program will teach students how to…)																
2.1 Identify and analyze complex, cross-functional management			I+A		I+A			I+A			I+A	I+A	I+D+R+A		I+R+A	I+R+A

Legend: I = Introduced, D = Developed, R = Reinforced, A = Assessed Individually for Achievement

Program Learning Outcomes	T1 SUST 5100 3.0 Ethics and Technology	OMIS 5100 3.0 Emerging Technologies and the Changing Landscape of Business	ECON 5110 3.0 Digital Economics	MKTG 5100 3.0 Unlocking Value For Customers Through Technology and Digital Transformation	MGMT 5190 1.5 Professional Development Hive Part 1	MGMT 5110 1.5 Technology in Global Markets	T2 ACTG 5201 3.0 Financial Reporting and Control in Technology Firms	FINE 5201 3.0 Finance in the Digital Age	OMIS 5201 3.0 Digitizing Supply Chain Operations	ORGS 5201 3.0 Leading and Managing Digital Transformations	MGMT 5290 1.5 Professional Development Hive Part 2	T3 Elective 1	Elective 2	MGMT 5300 6.0 Mandatory Experiential Learning	T4 SGMT 6010 3.0 Strategic Management in the Digital Era	MGMT 6110 6.0 Venture Studio: The Acceleration Mission
problems using ambiguous qualitative and quantitative data in the context of technology and digital transformation initiatives.																
Goal 3 of 5: Professional Communication (The MBA Program will teach students how to…)																
3.1 Create and deliver effective and engaging presentations in the context of technology and digital transformation initiatives.	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+R+A	I+D+R+A	I+D+R+A

Legend: I = Introduced, D = Developed, R = Reinforced, A = Assessed Individually for Achievement

Program Learning Outcomes	SUST 5100 3.0 Ethics and Technology	OMIS 5100 3.0 Emerging Technologies and the Changing Landscape of Business	ECON 5110 3.0 Digital Economics	MKTG 5100 3.0 Unlocking Value For Customers Through Technology and Digital Transformation	MGMT 5190 1.5 Professional Development Hive Part 1	MGMT 5110 1.5 Technology in Global Markets	ACTG 5201 3.0 Financial Reporting and Control in Technology Firms	FINE 5201 3.0 Finance in the Digital Age	OMIS 5201 3.0 Digitizing Supply Chain Operations	ORGS 5201 3.0 Leading and Managing Digital Transformations	MGMT 5290 1.5 Professional Development Hive Part 2	Elective 1	Elective 2	MGMT 5300 6.0 Mandatory Experiential Learning	SGMT 6010 3.0 Strategic Management in the Digital Era	MGMT 6110 6.0 Venture Studio: The Acceleration Mission
TERM (T) — T1 / T2 / T3 / T4	T1					T2						T3			T4	
3.2 Successfully carry out negotiations in the context of technology and digital transformation initiatives.										I+D+A			R		I+D+A	R
Goal 4 of 5: Responsible Business The MBA Program will teach students how to…)																
4.1 Derive innovative solutions and implementation plans for complex management problems that create sustainable value for all	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+A	I+D+R+A	I+D+R+A	I+D+R+A

Legend: I = Introduced, D = Developed, R = Reinforced, A = Assessed Individually for Achievement

Program Learning Outcomes	SUST 5100 3.0 Ethics and Technology	OMIS 5100 3.0 Emerging Technologies and the Changing Landscape of Business	ECON 5110 3.0 Digital Economics	MKTG 5100 3.0 Unlocking Value For Customers Through Technology and Digital Transformation	MGMT 5190 1.5 Professional Development Hive Part 1	MGMT 5110 1.5 Technology in Global Markets	ACTG 5201 3.0 Financial Reporting and Control in Technology Firms	FINE 5201 3.0 Finance in the Digital Age	OMIS 5201 3.0 Digitizing Supply Chain Operations	ORGS 5201 3.0 Leading and Managing Digital Transformations	MGMT 5290 1.5 Professional Development Hive Part 2	Elective 1	Elective 2	MGMT 5300 6.0 Mandatory Experiential Learning	SGMT 6010 3.0 Strategic Management in the Digital Era	MGMT 6110 6.0 Venture Studio: The Acceleration Mission
TERM (T)	**T1**						**T2**					**T3**			**T4**	
stakeholders taking into account ethical, social, DEI, and environmental issues in the context of technology and digital transformation initiatives.																
Goal 5 of 5: Global Perspective The MBA Program will teach students how to…)																
5.1 Evaluate issues and potential approaches to business decision-making in the global	I	I	I	I	I	I	I+D+A	I	I	I	I	I	I	I	I+D+R	I

Legend: I = Introduced, D = Developed, R = Reinforced, A = Assessed Individually for Achievement

TERM (T)	T1						T2					T3		T4	
Program Learning Outcomes	**SUST 5100 3.0** Ethics and Technology	**OMIS 5100 3.0** Emerging Technologies and the Changing Landscape of Business	**ECON 5110 3.0** Digital Economics	**MKTG 5100 3.0** Unlocking Value For Customers Through Technology and Digital Transformation	**MGMT 5190 1.5** Professional Development Hive Part 1	**MGMT 5110 1.5** Technology in Global Markets	**ACTG 5201 3.0** Financial Reporting and Control in Technology Firms	**FINE 5201 3.0** Finance in the Digital Age	**OMIS 5201 3.0** Digitizing Supply Chain Operations	**ORGS 5201 3.0** Leading and Managing Digital Transformations	**MGMT 5290 1.5** Professional Development Hive Part 2	Elective 1	Elective 2	**MGMT 5300 6.0** Mandatory Experiential Learning	**SGMT 6010 3.0** Strategic Management in the Digital Era	**MGMT 6110 6.0** Venture Studio: The Acceleration Mission
context in the context of technology and digital transformation initiatives.																

Legend: I = Introduced, D = Developed, R = Reinforced, A = Assessed Individually for Achievement

Mapping of Master Degree Level Expectations against
MBA in Technology Leadership (MBAt) Learning Outcomes

Master Degree Level Expectations		MBAt Outcomes	
1. Depth and breadth of knowledge	A systematic understanding of knowledge, including, where appropriate, relevant knowledge outside the field and/or discipline, and a critical awareness of current problems and/or new insights, much of which are at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice.	**Goal 1 of 5 Core Business Knowledge & Understanding (The MBAt Program will…)**	1.1: Equip students with the knowledge of the main theories, concepts, methods, and current issues in each of the major functional disciplines of management as they are practiced within the digital world
2. Research and scholarship	A conceptual understanding and methodological competence that: a) enables a working comprehension of how established techniques of research and inquiry are used to create and interpret knowledge in the discipline; b) enables a critical evaluation of current research and advanced research and scholarship in the discipline or area of professional competence; and c) enables a treatment of complex issues and judgments based on established principles and techniques; and, On the basis of that competence, has shown at least one of the following: a) development and support of a sustained argument in written form; or b) originality in the application of knowledge.	**Goal 2 of 5: Critical Analysis & Decision-Making (The MBAt Program will teach students how to…)** **Goal 4 of 5: Responsible Business The MBA Program will teach students how to…)**	2.1 Identify and analyze complex, cross-functional management problems using ambiguous qualitative and quantitative data in the context of technology and digital transformation initiatives. 4.1 Derive innovative solutions andimplementation plans for complex management problems that create sustainable value for all stakeholders taking into account ethical, social, DEI, and environmental issues in the context of technology and digital transformation initiatives.

3. Level of application of knowledge	Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting.		
4. Professional capacity / autonomy	a) The qualities and transferable skills necessary for employment requiring: i) exercise of initiative and of personal responsibility and accountability; and ii) decision-making in complex situations; b) The intellectual independence requiredfor continuing professional development; c) The ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research;and d) The ability to appreciate the broader implications of applying knowledge to particular contexts.		
5. Level of communication skills	The ability to communicate ideas, issues and conclusions clearly.	**Goal 3 of 5: Professional Communication (The MBA Program will teach students how to…)**	3.1 Create and deliver effective and engaging presentations in the context of technology and digital transformation initiatives. 3.2 Successfully carry out negotiations in the context of technology and digital transformation initiatives.
6. Awareness of limits of knowledge	Cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.	**Goal 4 of 5: Responsible Business The MBA Program will teach students how to…)** **Goal 5 of 5: Global Perspective**	4.1 Derive innovative solutions andimplementation plans for complex management problems that create sustainable value for all stakeholders taking into account ethical, social, DEI, and environmental issues in the context of technology and digital transformation initiatives. 5.1 Evaluate issues and potential approaches to business decision-making in the global context in the context of technology and digital transformation initiatives.

Mapping of MBA in Technology Leadership (MBAt) Learning Outcomes Against Master Degree Level Expectations

MBAt Outcomes		Master Degree Level Expectations
Goal 1 of 5 Core Business Knowledge & Understanding (The MBAt Program will…)	1.1 : Equip students with the knowledge of the main theories, concepts, methods, and current issues in each of the major functional disciplines of management as they are practiced within the digital world. 1.2 : Develop leadership skills and competencies in the context of technology and digital transformation initiatives. 1. 3: Develop teamwork skills and competencies in the context of technology and digital transformation initiatives	Depth and Breadth of Knowledge A systematic understanding of knowledge, including, where appropriate, relevant knowledge outside the field and/or discipline, and a critical awareness of current problems and/or new insights, much of which are at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice. Research & Scholarship: A conceptual understanding and methodological competence that: a) enables a working comprehension of how established techniques of research and inquiry are used to create and interpret knowledge in the discipline; b) enables a critical evaluation of current research and advanced research and scholarship in the discipline or area of professional competence; and c) enables a treatment of complex issues and judgments based on established principles and techniques;
Goal 2 of 5: Critical Analysis & Decision-Making (The MBAt Program will teach students how to…)	2.1 Identify and analyze complex, cross-functional management problems using ambiguous qualitative and quantitative data in the context of technology and digital transformation initiatives.	Level of application of knowledge: Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting. Research & Scholarship: On the basis of that competence, has shown at least one of the following: b) Originality in the application of knowledge. Professional capacity / autonomy: a) i) exercise of initiative and of personal responsibility and

		accountability; ii. decision-making in complex situations b) The intellectual independence required for continuing professional development d) The ability to appreciate the broader implications of applying knowledge to particular contexts <u>Awareness of Limits of Knowledge:</u> b) Cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines
Goal 3 of 5: Professional Communication (The MBA Program will teach students how to…)	3.1 Create and deliver effective and engaging presentations in the context of technology and digital transformation initiatives. 3.2 Successfully carry out negotiations in the context of technology and digital transformation initiatives.	<u>Research & Scholarship:</u> On the basis of that competence, has shown at least one of the following: a) development and support of a sustained argument in written form <u>Level of Communications Skills:</u> The ability to communicate ideas, issues and conclusions clearly <u>Professional Capacity / Autonomy:</u> a) The qualities and transferable skills necessary for employment requiring: i) exercise of initiative and of personal responsibility and accountability

Goal 4 of 5: Responsible Business The MBA Program will teach students how to…)	4.1 Derive innovative solutions and implementation plans for complex management problems that create sustainable value for all stakeholders taking into account ethical, social, DEI, and environmental issues in the context of technology and digital transformation initiatives.	<u>Professional capacity / autonomy:</u>
		a) The qualities and transferable skills necessary for employment requiring:
		    i) exercise of initiative and of personal responsibility and accountability; and
		    ii) decision-making in complex situations
		
		c) The ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research
		
		d) The ability to appreciate the broader implications of applying

		knowledge to particular contexts.
Goal 5 of 5: Global Perspective The MBA Program will teach students how to…)	5.1 Evaluate issues and potential approaches to business decision-making in the global context in the context of technology and digital transformation initiatives.	Professional capacity / autonomy: a) The qualities and transferable skills necessary for employment requiring: i) exercise of initiative and of personal responsibility and accountability; and ii) decision-making in complex situations c) The ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research d) The ability to appreciate the broader implicationsof applying knowledge to particular contexts.

Schulich School of Business
MBA in Technology Leadership (MBAt) Program Learning
Outcomes & Assessments

Learning Outcome	Course Assessed In	Assessment (individually completed unless *)
Goal 1 of 5 Core Business Knowledge & Understanding (The MBAt Program will…)		
1.1: Equip students with the knowledge of the main theories, concepts, methods, and current issues in each of the major functional disciplines of management as they are practiced within the digital world	**SUST 5100 3.0** Ethics and Technology **OMIS 5100 3.0** Emerging Technologies and the Changing Landscape of Business **ECON 5110 3.0** Digital Economics **MKTG 5100 3.0** Unlocking Value For Customers Through Technology and Digital Transformation **MGMT 5190 1.5** Professional Development Hive Part 1 **MGMT 5290 1.5** Professional Development Hive Part 2 **MGMT 5110 1.5** Technology Firms and the Global Environment **ACTG 5201 3.0** Financial Reporting and Control in Technology Firms	Class Participation Reports Exams Assignments (See Appendix 6a for course by course details) * Team Project Presentation and Report

	FINE 5201 3.0 Finance in the Digital Age OMIS 5201 3.0 Digitizing Supply Chain Operations ORGS 5201 3.0 Leading and Managing Digital Transformations Elective 1 (3.0) – Hyflex Elective 2 (3.0) – Hyflex MGMT 5300 6.0 Mandatory Experiential Learning SGMT 6010 3.0 Strategic Management in the Digital Era - Hyflex MGMT 6110 6.0 Venture Studio: The Acceleration Missions (Integrated Field Study) [Startup Studio/ Product Studio]	
1.2: Develop leadership skills and competencies in the context of technology and digital transformation initiatives	SUST 5100 3.0 Ethics and Technology ECON 5110 3.0 Digital Economics ORGS 5201 3.0 Leading and Managing Digital Transformations SGMT 6010 3.0 Strategic Management in the Digital Era - Hyflex	Class Participation Reports Exams Assignments (See Appendix 6a for course by course details) * Team Project Presentation and Report
1. 3: Develop teamwork skills and competencies in the context of technology and digital transformation initiatives	MGMT 5300 6.0 Mandatory Experiential Learning MGMT 6110 6.0 Venture Studio: The Acceleration	Class Participation Reports Exams Assignments (See Appendix 6a for course by course details) * Team Project Presentation and Report

	Missions (Integrated Field Study) [Startup Studio/ Product Studio]	
Goal 2 of 5: Critical Analysis & Decision-Making (The MBAt Program will teach students how to…)		
2.1 Identify and analyze complex, cross-functional management problems using ambiguous qualitative and quantitative data in the context of technology and digital transformation initiatives.	**SUST 5100 3.0** Ethics and Technology **ORGS 5201 3.0** Leading and Managing Digital Transformations **SGMT 6010 3.0** Strategic Management in the Digital Era - Hyflex	Class Participation Reports Exams Assignments (See Appendix 6a for course by course details) * Team Project Presentation and Report
Goal 3 of 5: Professional Communication (The MBA Program will teach students how to…)		
3.1 Create and deliver effective and engaging presentations in the context of technology and digital transformation initiatives.	All Courses	*Team Project Presentation
3.2 Successfully carry out negotiations in the context of technology and digital transformation initiatives.	**MGMT 5300 6.0** Mandatory Experiential Learning **MGMT 6110 6.0** Venture Studio: The Acceleration Missions (Integrated Field Study) [Startup Studio/ Product Studio]	*Team Project Final Report
Goal 4 of 5: Responsible Business The MBA Program will teach students how to…)		

4.1 Derive innovative solutions and implementation plans for complex management problems that create sustainable value for all stakeholders taking into account ethical, social, DEI, and environmental issues in the context of technology and digital transformation initiatives.	**SGMT 6010 3.0** Strategic Management in the Digital Era - Hyflex **MGMT 5300 6.0** Mandatory Experiential Learning **MGMT 6110 6.0** Venture Studio: The Acceleration Missions (Integrated Field Study) [Startup Studio/ Product Studio]	Class Participation Reports Exams Assignments (See Appendix 6a for course by course details) * Team Project Presentation and Report
Goal 5 of 5: Global Perspective The MBA Program will teach students how to…)		
5.1 Evaluate issues and potential approaches to business decision-making in the global context in the context of technology and digital transformation initiatives.	**MGMT 5110 1.5** Technology Firms and the Global Environment	Class Participation Reports Exams Assignments (See Appendix 6a for course by course details) * Team Project Presentation and Report

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Memorandum

To:	Prof. Ela Veresiu
From:	Joy Kirchner, Dean of Libraries *JoyKirchner*
Date:	March 16, 2022
Subject:	Library Support for MBA in Leading Technology⋅Enabled Organizations Program (MBAt)

York University Libraries (YUL) is strongly positioned to support the curriculum and research needs of students and faculty in the MBA in Leading Technology⋅Enabled Organizations Program (MBAt). As noted in the Statement of Library Support, YUL provides access to an extensive array of resources and services that support the academic engagement of students and faculty in this program, inclusive of experiential education opportunities.

I highlight YUL's curriculum integration offerings, digital literacy programs, our business collections, business elearning modules, and specialized programming offered through our digital scholarship centre. YUL also offers broad and deep knowledge and infrastructure to support emerging curricular needs in financial, marketing and entrepreneurship literacies.

I also want to alert you to opportunities available through our digital scholarship centre spaces at the Keele campus and those that will be leveraged at the Markham Campus Centre Library, designed in part with a focus on technology, entrepreneurship, management and communications. Opportunities include supporting students and faculty with library⋅led instruction and proficiency with immersive spaces including media capture and editing suites, a makerspace, VR capabilities, a gaming lab, and a visualization wall, all developed to support creative collaborations for teaching, learning, research, community partnerships and experiential education. As you can see we are a technology enabled enterprise in our own right. There may be interesting program synergies that could be explored further that provides experiential opportunities within our spaces.

We look forward to contributing to the success of students and faculty in the MBA in Leading Technology⋅Enabled Organizations Program (MBAt).

cc: Patti Ryan, Director, Content Development and Analysis,
Jack Leong, Associate Dean of Libraries, Research and Open Scholarship
Xuemei Li, Data Services Librarian, Open Scholarship Department

Master of Business Administration in Leading Technology-Enabled Organizations (MBAt)
Program Description

The MBA program in Leading Technology-Enabled Organizations (MBAt) program is designed to develop graduates with managerial and leadership skills and competencies in the context of technology and digital transformation initiatives. It will produce graduates who will bring leading-edge technological and managerial knowledge to develop proactive organizational responses to technological disruptions. Program graduates will also foster silo-breaking intra-organizational collaborations to create innovative solutions to ongoing business challenges. They will champion clarity of business.

The 16-month MBAt program is unique in Canada and will offer explicitly designed courses and experiential education components (mandatory internship in technology leadership, professional development core, and a capstone integrated field study (startup studio/product lab experience)) for students interested in leadership roles in the technology-based industries. The program will require students to complete 49.5 credits over four consecutive terms of full-time study.

The program makes an explicit commitment to experiential learning in the following ways: 1) Every course will commit 30% of the total time to experiential learning initiatives (guest lectures, simulations, case studies, etc.), 2) Every course will be encouraged to have an ongoing relationship with an industry leader who will offer experiential insights to the students, 3) The program has a required internship component, and 4) The program will require students to work with real-world clients to develop technology solutions for their business needs and to work with the client to ensure the implementation of these solutions.

Appendix 10: Course Forms and Outlines

External Reviewers' Reports
New Programs
July 14, 2022

External Reviewers' Report on the MBA Program in Leading Technology-Enabled
Organizations at York University

Reviewer 1

Name: Matthew D'Amore

University Address: Cornell Tech, 2 West Loop Rd, New York, NY, USA 10044

Reviewer 2

Name: Madhu Kalimipalli

University Address: Lazaridis School of Business and Economics, 75 University Avenue West,
Waterloo, Ontario, Canada N2L 3C5

1. OUTLINE OF THE VISIT

Was the site visit: In person: ☐   Virtual site visit:☒   [Desk Review]: ☐

If the review was conducted either virtually or via desk review, was this format agreed to by both
external reviewers?   Yes ☒   No   ☐

Was sufficient rationale provided by the Provost/Provost's delegate for an off-site visit?

Yes   ☒   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?
    - Please see the attached PDF files for the interview list
- What facilities were seen?
    - NA
- Comment on any other activities relevant to the appraisal.
    - See below.

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?

    - Very good. The proposal was well documented. An improvement would be to
      include more comparative information to existing York/Schulich programs.

- o Clarifications on certain issues identified below can help improve the program proposal.

- How could the logistics of the visit/virtual site visit be improved?

  - o The logistics were extremely well organized. The program ran seamlessly, and the participants were well prepared and engaged.

  - o One improvement would be to allocate more time to the staff functions of Student Services, Career & Admissions. We had fruitful discussions but only about 15 min for each function and so had to schedule a follow-up meeting with career.

  - o We also recommend that it would be better to hold such an event in-person in the future. In-person meeting, if possible, would be more efficient and allow the review to reflect the campus facilities and environment.

2. EVALUATION CRITERIA (QAF 2.1.2)

Please provide commentary on the following evaluation criteria:

2.1 Objectives of the program (QAF 2.1.2.1)

- Are the program's objectives clearly described?

  - o The School proposes a full-time MBA program in Leading Technology-Enabled Organizations (MBAt). Its objectives are to:

    - Transform technology developers into managers and leaders

    - Create a start-up mindset

    - Create inclusive thinkers

    - Create effective team builders

    - Create compelling communicators

Comments:

  - o More clarity is needed on the notion of Creating a "Startup Mindset". More clarity on the new start up or innovation practicum needs to be provided. The connectivity to Venture studio (term 4 course offering) needs to be better explained.

  - o Reference: "Commitment to Experiential Learning (page 7)":

    - The requirement to "work with technology developers to bring a new technology/product to market" is ill defined and may set too high a bar

    - More details needed on the following issues: Who are "technology developers"? What is meant by "new product"? Is it a digital app? Is it covered

in just one term? Which course is being referencing here? Is it captured by Venture studio?

- ▪ Assuming this requirement relates to Venture Studio, a semester may be too short a time to "bring…a product to market" and that it may be difficult to find partners with this explicit goal. The Program may wish to modify or better define this goal to set expectations for students and partners.

- Is the degree nomenclature appropriate, given the program's objectives?

Comments:

- o The shortening to "MBAt" could create some confusion as to the balance between tech leadership and tech fundamentals. The program focuses on leadership and strategy, not technology development fundamentals per se.

- o Perhaps the current title "MBA in Leading Technology-Enabled Organizations" (MBAt) may be sharpened (e.g., "MBA in Tech Management & Leadership").

- Are the program's objectives consistent with the institution's mission and academic plans?

- o The university's academic plan seeks (among other things) to foster interdisciplinary innovation, sustainable development, and global engagement, all of which are reflected in the program's objectives. (York University Academic Plan 2020-2025.)

Comments:

- o University Academic Plan (page 10): Need more clarity on whether students will be able to cross-register across other graduate programs such as (a) Master of Management, (b) Master of Business Analytics, (c) Master of Management in Artificial Intelligence (MMAI)) and (d) the proposed Master of Management and Engineering. Will students be able to get double degrees from the school? Clarity on the cross-linkages across programs using an exhibit will be useful.

- o University Academic Plan (page 12): Technology managers want to grow out of their roles and go into more general leadership roles and not just into tech leadership. Can we better explain the value-proposition for the student for the five programs (i.e., MBA t versus programs a) to d) mentioned above)? A tabular comparison in course content and objectives of the five programs can be useful.

2.2 Program Requirements (QAF 2.1.2.2)

NOTE: The Quality Assurance Framework requires a clear distinction between program objectives, program-level learning outcomes, and Degree Level Expectations. See the Guidance on Program Objectives and Program-level Learning Outcomes for details on the distinction.

- Is the program's structure and the requirements to meet the program objectives and program-level learning outcomes appropriate?

  o The program-level learning outcomes are described in the Program Brief (Program Brief at 17-18) and include:

    1. Core business knowledge and understanding

    2. Critical analysis and decision-making

    3. Professional communication

    4. Responsible business

    5. Global Perspective

Comments:

  o The program structure is designed to walk students through a curriculum according to these objectives. Term 1 and Term 2 address the MBA Core, refined with a focus on digital businesses and digital transformation, meeting Objective 1.

  o Notably and commendably, the program requires a course on Ethics and Technology and one on Technology Firms and the Global Environment, meeting Objectives 4 and 5 The program further includes a significant experiential and professional development component, via 3 credits of Professional Development, 6 credits of mandatory internship, and 6 credits of Venture Studio, meeting Objective 3.

  o Content relating to critical analysis and decision-making, Objective 2, is more inherent. It is most express in Venture Studio, where students work with start-up founders and venture investors. Students also build these skills via an operations course (OMIS5201) and a strategy course (SGMT 6010). However, some aspects of Objective 2 are intended to be fulfilled via electives and the mandatory internship, and the Program should ensure that this critical skill is monitored and assessed through these offerings. (Program Brief, Appendix 4.)

  o As an example, see the discussion of Term 4 (Page 15): Course in strategy Plus practicum "In addition, students will work on identifying a business problem of a real-world organization, developing a technological solution for the client, and working with the client to ensure its implementation".

    ▪ More clarity can help here. Who identifies the problem? Who identifies the companies? What does "founder placement" or "additional mentor" model mean? How are these tied to the objective of critical analysis and decision-making, and how will the Program ensure that outside mentors help students meet this objective?

  o Similarly, teaching toward Global Perspective, Objective 5, is listed as covered in virtually every course, with MGMT 5110 Technology & Global Markets providing

depth in this area.[1] As above, the Program should ensure that the instructors teaching Core and other courses include Global Perspective as a component over successive iterations.

- o In addition, the Program may wish to combine Global Perspective and Responsible Business into one category, as the concepts can be tied together (Responsible Business in a Global Environment).

- Do the program's structure, requirements and program-level learning outcomes ensure students meet the institution's Undergraduate or Graduate Degree Level Expectations?

Comments:

- o The program does well in delivering Graduate Degree level experience in Professional Capacity / Autonomy, Communications, and Limitations. The high degree of experiential learning in the program (via Professional Development, Internship, and Venture Studio) is designed to prepare students to function in a highly professional environment and confront them with real world problems.

- o The program appears adequate in delivering Depth/Breadth of Knowledge and Research & Scholarship, noting that the program by design increases the relative weight of experiential learning compared to classroom learning, as explained below.

  - ▪ In response to feedback from students and from employers, the Program developed a core curriculum adapting key business learnings to a technology environment and then the program then trains its focus on experiential learning and professional development as set forth above.

  - ▪ The result is that the classroom learning is comprised primarily of core requirements and offers comparably limited "in class" opportunity for individual exploration of new areas or for deepening knowledge along a particular axis.

- Does the (proposed) mode of delivery facilitate students' successful completion of the program-level learning outcomes?

Comments:

- o The Program provides a hybrid model well adapted to its experiential and practical focus. The first two terms are delivered in person and on campus. The final two terms include internships and potential site placements, for which a HyFlex model has been developed. The Program is aware that hybrid teaching has challenges but has reasonably concluded that the approach is necessary to deliver the academic component along side the experiential opportunities the final two terms provide.

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[1] *Appendix 4 lists this objective as covered in ACTG5201 instead; the reviewers believe this is a typographical error.*

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- o There is a need for training for skills in peoples' management that is currently missing in the program statement. Given the hybrid work culture, in the post-covid world, the employees may be geographically disbursed and not necessarily anchored to a physical location. Hence training in skills related to people's management are important in the new hybrid workplace.

- o Business Model Canvas (page 15): The Program proposes pre-work focusing on "business fundamentals" and the "Business Model Canvas." Some clarifications can help here: What is included in the pre-work? How is the Business Model Canvas incorporated? Who will be responsible for developing and assessing this instruction? More details are recommended.

- Does the curriculum address the current state of the discipline or area of study?

Comments:

- o The core curriculum is appropriately tailored to the tech industry and is coupled with professional development and experiential learning in view of feedback from target employers.

- o The Program demonstrates attention to global challenges, responsible management, and ethical leadership, as well as a flexible learning environment. These areas reflect current trends in business education as noted by the AACSB (Association to Advance Collegiate Schools of Business.).[2]

2.3 Program requirements for graduate programs only (QAF 2.1.2.3):

- Does the program length ensure that students can complete the program-level learning outcomes and requirements within the proposed time period?

Comments:

- o The program length (4 terms) is appropriate.

- o One comment as noted above is that the combination of a large number of required classroom courses (28.5/49.5) and required experiential learning credits (15/49.5) reduces the opportunity for students to explore areas of interest or individual deficit. (Only 6 credits of electives are available.)

- o Experiential learning course: Venture Studio: The Acceleration Mission (6.0). How does this course promote entrepreneurship and new product development, and can these be accomplished in the time allotted? How does the course add value? More details are recommended.

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[2] *T. Bisoux, What Trends Are Shaping Business Education? AACSB Insights, Feb. 7, 2022 (https://www.aacsb.edu/insights/articles/2022/02/what-trends-are-shaping-business-education)*

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- Are graduate students required to take a minimum of two-thirds of the course requirements from among graduate-level courses?

    o The program is a total of 49.5 credits. All courses appear to have a graduate designation.[3]

- For research focused graduate programs, are the nature and suitability of the major research requirements for degree completion appropriate?

    o N/A

2.4 Assessment of teaching and learning (QAF 2.1.2.4)

NOTE: Programs should ensure that the plans for monitoring and assessing student achievement provide an assessment of students currently enrolled as well as post-graduation metrics. Please see Guidance on Assessment of Teaching and Learning for further details and examples of measures for assessing teaching and learning that meet the requirements of the Quality Assurance Framework.

- Are the methods used to assess student achievement of the program-level learning outcomes and Degree Level Expectations appropriate and effective?

Comments:

    o The courses proposed each have a detailed assessment scheme that includes individual and group work as well as described plan to rely on final papers and/or team projects for both formative and summative assessment.

- 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:

    o At page 19-20, the Program Brief incorporates plans for assessment, focusing on student assessment.

    o The Program Brief does not detail a faculty or program evaluation process. It is presumed that Schulich has an existing system for faculty and course evaluation, and it is recommended that these evaluations be incorporated into periodic program reviews.

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[3] *The program meets this requirement even if the 15 credits of experiential coursework are excluded. (Traditional business school coursework comprises 70% of the curriculum.)*

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- o The Program proposes to use Canvas as an assessment tool, both for students and for the program. However, for programmatic reporting to be useful across classes, the program would need adopt some form of standardization for assessments, student progress, performance levels, or other metrics it desires to track.

- o The Program has not detailed how it intends to accomplish data collection and tracking across classes in accordance with the learning outcomes, and it is noted that any increase in standardization can come at the expense of an instructor's freedom to select assessment methods and tools most appropriate for a particular class (or most familiar to them). In addition, adoption of standard assessment tools can be challenging.

2.5 Admission Requirements (QAF 2.1.2.5)

- Are the program's admission requirements appropriate, given the program objectives and program-level learning outcomes?

- Are there any applicable alternative admission requirements, including how the program recognizes prior work or learning experience, and if so, are they appropriate?

Comments:

- o The Program is not designed for students new to technology related roles; rather it is designed to provide technology leadership, innovation, and strategy experience for those with a solid technology foundation. (Program Brief at 2.)

- o Accordingly, the admissions requirements require 2-5 years of technology-related work experience, which is consistent with the programmatic goals of preparing tech leaders within a business program. Specifically, it requires experience in "technology firms and/or in technology-enabled roles in non-technology firms." (Program Brief at 21.)

2.6 Resources (QAF 2.1.2.6)

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?

   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.

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?

Addressing all the above:

   o The teaching faculty will be drawn primarily from existing faculty and programs. While the courses are new, the cohort will be small (one section). No concerns were raised regarding the dedication of faculty to the new coursework.

   o The curriculum is largely composed of core business courses modified to accommodate a digital / tech focus. One faculty member indicated that this modification would likely be necessary for the School as a whole, outside of the MBAt program, and that the MBAt pushes that evolution in a positive direction.

   o The Program Brief indicates that the program will be drawn primarily from full-time faculty. (Program Brief at 23.)

   o Supervision of experiential learning appears adequate. Two seasoned instructors with experience in this mode of delivery will supervise the experiential component. (Interviews with Carder & Cernea.) Some elements of this program are adapted from a pre-existing international MBA, in which Cernea was heavily involved.

   o The target of 55 students is not expected to burden resources substantially in an overall program of approximately 3000 graduate and 1600 undergraduate students. (Interview with Kanagretnam, Pan, Sinker & Hillcoat.)

2.7 Resources for Graduate Programs Only (QAF 2.1.2.7):

Given the program's planned/anticipated class sizes and cohorts as well as its program-level learning outcomes:

- Does the faculty have the recent research or professional/clinical expertise needed to sustain the program, promote innovation and foster an appropriate intellectual climate?

- Where appropriate to the program, is financial assistance to students sufficient to ensure adequate quality and numbers of students?

- Are supervisory loads adequately distributed, in light of the qualifications and appointment status of the faculty?

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Addressing all the above:

- o Faculty qualifications are commensurate with the general MBA program.

- o No information was provided regarding financial assistance. As a professional-preparation program, research supervision and support are not applicable. (Program Brief at 24-25.)

2.8 Quality and other indicators (QAF 2.1.2.8)

- 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.

Addressing all the above:

- o Faculty qualifications are commensurate with the general MBA program.

3. ADDITIONAL COMMENTS

- Include any additional assessment of the New Program Proposal as a whole, as appropriate.

- Comment on any other issues, as applicable.

4. SUMMARY AND 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.

Comments:

In connection with the review, the External Reviewers considered the York University New Program Proposal for an MBA in Leading Technology-Enabled Organizations (MBAt), additional material provided by the School, and interviews with York University personnel as per the attached.

The review demonstrates the development of a solid leadership program directed at the technology industry. The Program has reimagined core MBA coursework to adapt to issues relevant to the

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field, while incorporating a solid professional development and experiential learning component. The arc of the curriculum moves students through the core learnings and professional skills development to mandatory internships and venture studio where students engage with large and small tech companies to apply their knowledge in real-world settings.

The curriculum however is heavy on core requirements and experiential learning and limited in elective availability. Elective availability is limited in two respects – first, the number of "tech" business electives are few, and second, the curriculum has little room for students to take electives.

Recommendation 1:

- Create room in the curriculum to permit students to take additional electives. This could include:

  - Merging SUST5100 (Ethics & Technology) and MGMT5110 (Technology Firms and the Global Environment) into a single course.

  - Reducing two or more core courses from 3 credits to 2 credits (or reduce MGMT 5190 and 5290 to a total of 2 credits)

  - Moving from 3 credit electives to 1.5 credit electives (permitting students to cover more topics of their choice during their studies)

Recommendation 2:

- Divide Venture Studio from 6 credits to its component parts of classroom and experiential work. Breaking up Venture Studio could have the following benefits:

  - Permit assessment to differentiate classroom and placement-related work

  - Reduce the impact of a single grade on student transcripts

  - Permit flexibility to offer variations of the offerings as the program evolves.

Recommendation 3:

- Create room for more formal exposure to entrepreneurship and innovation.

  - Embed more content on entrepreneurship (e.g., aspects of entrepreneurship finance) and Innovation into the course MGMT 6110: Venture Studio.

  - Explain how the skills gained in Venture Studio (and the overall program) can help students initiate start-ups as well as find opportunities in the blue-chip companies

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Recommendation 4:

- Ensure periodic program review.

    o Student course evaluations should be reviewed annually by an academic leader responsible for the program

    o Feedback concerning internship placements should also be solicited

    o Program level feedback and surveys should be collected to track and understand student satisfaction overall

    o Program metrics for student composition (diversity) and internship and permanent placement should be set and monitored

    o Periodic alumni surveys should be considered to test the fit between the curriculum and real-world demands

    o To the extent that Canvas is to be used for cross-class comparison, develop standard assessment and/or data collection methodologies and ensure their adoption.

Recommendation 5:

- Ensuring Effectiveness of Online courses in Term 3 & 4

    o While the two proposed online electives in Term 3 and the required course in Term 4 are offered in the hybrid format, an in-class end of the term group exercise can be included to enhance the learning experience.

Recommendation 6:

- Provide more detail on the pre-work and the use of the Business Model Canvas

Signature:

Signature:

Date: July 14, 2022

York University

Schulich School of Business

Master of Business Administration in Technology Leadership (MBAt)

Response to External Appraisal Report

July 2022

The Schulich School of Business would like to express our sincerest thanks to Professor Matthew D'Amore (Cornell University) and Professor Madhu Kalimipalli (Wilfrid Laurier University) for their valuable appraisal of the proposed Master of Business Administration in Technology Leadership (MBAt). We were very pleased to read that the appraisers viewed our proposal document strong and well thought through, and we appreciate their strong endorsement of our program. Below we respond to their recommendations as they appear in the Summary and Recommendations section of the External Appraisal Report. There are other developmental comments that are identified in the main body of the appraisal report as well. We provide a response to these developmental comments in the Other Recommendations section of this document.

Please note that we reproduce the recommendations in **blue font** and provide our responses in regular font.

RESPONSE TO RECOMMENDATIONS

Recommendation 1:

Create room in the curriculum to permit students to take additional electives.

This could include:

- Merging SUST5100 (Ethics & Technology) and MGMT5110 (Technology Firms and the Global Environment) into a single course.

- Reducing two or more core courses from 3 credits to 2 credits (or reduce MGMT 5190 and 5290 to a total of 2 credits)

- Moving from 3 credit electives to 1.5 credit electives (permitting students to cover more topics of their choice during their studies)

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Our Understanding of the Intent Behind the Recommendation: From our perspective, the essence of this recommendation springs from a concern that too much of the program runs in a lock-step fashion, thereby depriving students from exploring individual-level interests. Without a doubt, technology leadership is a multi-dimensional phenomenon, with students seeking to develop this capability being drawn to topics as varied is:

i.   What is the impact of technology leadership on teams and the HR function?

ii. What is the impact of technology leadership on consumers and the marketing function?

iii. What is the impact of technology leadership on operations and digital transformation initiatives?

As such, students may seek to develop greater depth in specific topic areas. We agree that in its stated formulation, the program does not allow students to explore their individual-level interests.

Our Proposed Solution: We will be increasing the choice for students in two ways.

First, we will offer 4 electives, requiring students to pick 2 from this list:

MBAt: ELECTIVES (Pick 2 of 4)

COURSE NAME	DESCRIPTION
OMIS 6610 3.00 DIGITAL TRANSFORMATION IN SERVICES	Digital technologies are changing the way service organizations do business and interact with their customers. Students explore and learn the foundations of digital transformation and make the connection among strategy, technology, and implementation. The course will provide students with real-life business cases in which various trade-offs must be made according to the technology, the business strategy, and the service requirements.
MBAN 5140 3.00 VISUAL ANALYTICS AND MODELLING	This course is an introduction to the fundamental theories of visual communication design applied in data visualization and visual analytics. Students become familiar with data-driven decision-making workflows and storytelling best practices. Major areas for discussion include visual design principals, data structures,

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	taxonomy of data visualization models and weekly technical tutorials using the Tableau software.
MBAN 6200 3.00 REALIZING VALUE FROM AI AND ANALYTICS IN ORGANIZATIONS	This course provides a practical grounding in analytics and artificial intelligence (AI) and its business applications in organizations. Students will learn how to address business pain points through AI and analytics solutions and how to sell and deliver project ideas. Students will gain skills needed to transform an organization into an innovative, efficient and data driven company of the future.
MBAN 6500 3.00 ARTIFICIAL INTELLIGENCE IN BUSINESS I	Students are introduced to the field of artificial intelligence, with a focus on business applications and a historical perspective that covers the basic terminology and concepts. The course covers multiple facets of artificial intelligence including knowledge representation and symbolic reasoning; biologically inspired approaches to artificial intelligence; supervised, unsupervised, and reinforcement learning; multi-agent systems; planning; and natural language processing.

Second, in our messaging for terms 3 and term 4, we will state the following:

"You are permitted to take 18 credits in each term. In term 3, the program requirement is 12 credits. As such you can take 2 additional courses. In term 4, the program requirement is 9 credits. As such you can take 3 additional courses. Should you wish to take additional courses in specific areas of interest, note that you are eligible to register for any of the elective courses in the MBA Program. You may pick up to 5 courses (2 in term 3 and 3 in term 4) from the list of MBA elective courses (there are over 50 elective courses that are offered in the Fall and Winter terms each year)."

Our Consideration of Your Suggested Actions: Thank you for all three of your thoughtful and creative solutions. We assessed them against the impact they would have on the program's ability to deliver on its learning outcomes. On this basis, we developed the proposal that we have outlined above.

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In our estimation, the proposed solution addresses the central concern that underlies this recommendation.

Recommendation 2:

Divide Venture Studio from 6 credits to its component parts of classroom and experiential work.

Breaking up Venture Studio could have the following benefits:

- Permit assessment to differentiate classroom and placement-related work

- Reduce the impact of a single grade on student transcripts

- Permit flexibility to offer variations of the offerings as the program evolves

Response to Recommendation 2

The Venture Studio course will be divided into two parts: A and B. In Part A, the focus will be three-fold:

i. **Understanding**: Students will gain an understanding of the existing business model of the venture (to which they have been assigned) in relation to the opportunity that the venture is pursuing. Thus, students will develop an understanding of both the internal business model as well as the external environment.

ii. **Assessment**: Students will learn tools, concepts, and methodologies that will enable them to gauge the extent to which the existing business model will effectively and efficiently addresses the business opportunity.

iii. **Recommendation**: Students will develop concrete recommendations for the venture that are designed to create a more effective/efficient fit between the business model of the venture and the opportunity.

In Part B, the focus will be on executing the recommendations. As such, the focus here will be on learning-by-doing. On the premise that their recommendation is a hypothesis, students will have the opportunity to implement their recommendation, to observe the results of their implementation, and to develop subsequent responses to the ensuing results.

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Note: While the course is scheduled officially for Term 4, Part A will commence mid-way through term 3, so students are well on their way to recommendation development at the beginning of term 4. We believe that the preliminary results that they will be able to generate over the quarter term will provide valuable learning opportunities.

Recommendation 3:

Create room for more formal exposure to entrepreneurship and innovation.

- Embed more content on entrepreneurship (e.g., aspects of entrepreneurship finance) and Innovation into the course MGMT 6110: Venture Studio.
- Explain how the skills gained in Venture Studio (and the overall program) can help students initiate start-ups as well as find opportunities in the blue-chip companies

Our Understanding of the Intent Behind the Recommendation: Given that "creation of a startup mindset" is one of the key program objectives, and given the prevalence of entrepreneurial startups in the technology industry, we understand completely that a focus on entrepreneurship in logical and may be expected.

Our Position and Proposed Solution: Our intent in this program is to create leaders of technology initiatives within large organizations. As such, we want them to develop capabilities in understanding how large organizations work. One of the activities that large organizations are engaged in today is in the development of internal startup ventures in order to kickstart the innovation engines within the organization. We want our students to work in and run and head these ventures because these internal startup ventures invariably have a strong technological focus. As such, it is the startup mindset that we are seeking to inculcate, as, in our view, this will make them more attractive to large employers (this being our population of interest).

Consider the "moment of truth": this being the interview between an MBAt student and let us say, Amazon. What we know from our discussions with the Amazons of this world is that they are looking for talent not only to execute initiatives but also to develop new initiatives on the basis of new and emerging and disruptive technology. Here is where we expect the MBAt graduate to shine. We will be equipping them with an awareness of new and disruptive

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technologies and with the capability to incorporate these technologies to solve new business problems for their organizations or indeed to solve their existing business problems in different ways. As such, we want to create a startup mindset as opposed to entrepreneurial expertise in this program.

In the Venture Studio course, students will work on startup initiatives within large organizations and/or within smaller organizations that are working on initiatives that are expected to be of interest to large organizations. They will learn the technology, they will learn to apply the technology to solve business problems, and they will learn to project manage the implementation of this new technological initiative.

Distinguishing MBAt from MMENG: It is also important to distinguish MBAt from the MMENG program. We have worked in coordination with the developers of the latter program to develop a clear demarcation between the two programs (please see attached ppt "Differentiating MBAt from other programs."). As we articulate on slide 2 of that deck, the focus in the MMENG is explicitly on entrepreneurs, the focus in the MBAt is explicitly on the startup mindset.

[Differentiating MBAt from other programs](#)

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Recommendation 4:

Ensure periodic program review.

- Student course evaluations should be reviewed annually by an academic leader responsible for the program

- Feedback concerning internship placements should also be solicited through program level feedback and surveys should be collected to track and understand student satisfaction overall

- Program metrics for student composition (diversity) and internship and permanent placement should be set and monitored

- Periodic alumni surveys should be considered to test the fit between the curriculum and real-world demands

- To the extent that Canvas is to be used for cross-class comparison, develop standard assessment and/or data collection methodologies and ensure their adoption

Proposed Solution: Thank you for these ideas. In the table below, we elaborate upon our action plans to execute each of these ideas.

IDEA	ACTIONS
Student course evaluations should be reviewed annually by an academic leader responsible for the program	**Office:** The Curriculum Innovation and Teaching Excellence (CITE) office is tasked with reviewing course evaluations and formulating action plans on a term by term basis (**https://teachingandlearning.schulich.yorku.ca/schulichs-new-office-of-curriculum-innovation-and-teaching-excellence-cite/**). The specific mandate of this office includes "Coordination of Schulich's instructional design, educational technology, curricular improvement and faculty development services to improve program quality, market-relevance and competitiveness."

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	Who: The Associate Dean Academic (ADA) is Chair of CITE. The ADA will work with the MBAt Program Director (MBAt PD) on this initiative.
Feedback concerning internship placements should also be solicited	Office: The Schulich Professional Development & Experiential Education (PD&EE) office tasked with identifying placement opportunities and with ensuring that mutually beneficial – for the organization and for the students – experiences emerge. Specifically, the office is tasked with collecting feedback from both parties and with developing ideas for improvements based on these pieces of feedback. WHO: Dr. Minerva Cernea (Associate Director of PD&EE) will work with the MBAt PD to execute this initiative.
Program level feedback and surveys should be collected to track and understand student satisfaction overall	Office: The MBAt office will be tasked with developing and administering a survey at the end of every term to students. Over time, these data will serve to provide the program office with guidance on the extent to which the program is on-track toward the fulfillment of program objectives. The survey to collect program level feedback is presented after this table ("Survey to Assess Attainment of Program Level Objectives"). WHO: The MBAt PD and the MBAt office will work on executing this initiative.
Program metrics for student composition (diversity) and internship and permanent placement should be set and monitored	Office: Student Services and International Relations (SSIR), PD&EE and the MBAt Program Office will coordinate to work on this initiative. Program Metrics: Consistent with other Schulich programs, the target will be no more than 50% international students, with representation from no one international country being greater than 20%. The program will actively strive to ensure a 50-50 split between female and male students.

Periodic alumni surveys should be considered to test the fit between the curriculum and real-world demands	Office: The Development and Alumni Relations (DAR) in coordination with the Centre for Career Design (CCD) offices at Schulich conducts alumni surveys on an annual basis. The MBAt alumni will be surveyed annually as part of a comprehensive alumni survey initiative that is conducted within Schulich.
To the extent that Canvas is to be used for cross-class comparison, develop standard assessment and/or data **collection** methodologies and ensure their adoption	Office: The CITE office will work with the MBAt program office to execute this initiative.

Survey to Assesses Attainment of Program Level Objectives

PROGRAM OBJECTIVE	QUESTION
1. Transforming Technologists into Managers and Leaders	Relative to the start of the term where (1 = Strongly disagree and 5 = Strongly agree) • I have a better idea of how technology can be used to solve business problems. • I have a better idea of the technology implementation challenges that are created within organizations. • I am more confident that I have the tools and capabilities to overcome technology implementation challenges in organizations.
2. Create a startup mindset	Relative to the start of the term where (1 = Strongly disagree and 5 = Strongly agree) • My knowledge of how to develop disruptive technologies has increased.

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	• My knowledge of how to develop disruptive business models has increased. • I have a better sense for where growth opportunities in any given industry are.
3. Create Inclusive Thinkers	Please rate your agreement with the following statements (1 = Strongly disagree and 5 = Strongly agree): • It is important that all perspectives on a business problem are heard. • I will actively seek out voices from different perspectives to participate in discussions of how to solve problems. • People need to feel safe and included in the organization if they are to contribute to the organization's well-being.
4. Create Effective Team Builders	Relative to the start of the term where (1 = Strongly disagree and 5 = Strongly agree) • My knowledge of how to develop cross-functional teams has increased. • My knowledge of how to build remote teams has increased. • My knowledge of how to manage conflict within teams has increased. • My knowledge of how to motivate teams has increased.
5. Create Compelling Communicators	Relative to the start of the term where (1 = Strongly disagree and 5 = Strongly agree) • My ability to communicate clearly has increased. • My ability to develop impactful presentations has

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	increased.
	• My ability to write concise emails and memos has increased.
	• I am able to express myself with a greater level of clarity and precision.

Recommendation 5

Ensuring effectiveness of online courses in Terms 3 & 4

- While the two proposed online electives in Term 3 and the required course in Term 4 are offered in the hybrid format, an in-class end of the term group exercise can be included to enhance the learning experience.

Response to Recommendation 5

Each student team will do a presentation to the following stakeholders:

  i. The leaders of the venture to which they have been assigned,

  ii. Their classmates,

  iii. The instructor,

  iv. The MBAt Program Director, and,

  v. Interested faculty from the MBAt teaching team.

They will do this at the end of Part A as well as at the end of Part B.

Each team presentation will cover the following in their Part A presentation:

(i) **Description**: The team will describe the business model of the venture in relation to the external opportunity

(ii) **Assessment**: The team will articulate the strengths/weaknesses of the fit between the business model and the external opportunity

(iii) **Recommendation**: The team will identify the concrete recommendations that they developed to create a more effective/efficient fit between the business model of the venture and the opportunity.

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(iv)   **Learning By Doing**: The team will identify key learnings from their implementation

journey

(v)   **Overall Reflection**: The team will provide overall reflections on the learning journey that

they undertook.

Each team presentation will cover the following in their Part B presentation:

(i)   **Learning By Doing**: The team will identify key learnings from their implementation

journey

(ii)   **Overall Reflection**: The team will provide overall reflections on the learning journey that

they undertook.

Recommendation 6

Provide more detail on the pre-work and the use of the Business Model Canvas.

Response to Recommendation 6:

In the discussion below, we provide details on Term 0 (Business Model Canvas is discussed in

this term). Note that the MBAt Program office will be responsible for the development and

execution of Term 0.

Details on Term 0 are provided on the following dimensions:

(i)   Objectives of Term 2

(ii)   The Reference Programs that were consulted to develop Term 0

(iii)   The Content of Term 0 – in terms of the specific topics that will be covered

(iv)   The Assessment of Term 0 – how students will be evaluated to ensure effective

absorption of the material.

Details on Term 0 in the MBAt

OBJECTIVES: The intent of this program is to provide students with exposure to the basic

vocabulary of business. It is also intended to provide them with the grounding on which course

concepts will be built. A number of MBA Programs, including our own, have observed the need

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for a pre-MBA module to serve the purpose of orienting students to the language of business. The intent of Term 0 is the same.

REFERENCE PROGRAMS:

SCHOOL	LINKS TO THE PRE-MBA PROGRAM
Schulich	https://gradblog.schulich.yorku.ca/flying-start-16/ https://gradblog.schulich.yorku.ca/faqs-prepping-for-the-master-of-management-mmgt/
Rotman	https://www.rotman.utoronto.ca/Degrees/MastersPrograms/MBAPrograms/FullTimeMBA/Program/ProgramOverview
Ted Rogers	https://trsmcredentials.ryerson.ca/issuer/28315/credentials

DURATION: 2 weeks

CONTENT:

MODULE	DETAILS
Business Model Canvas (BMC)	The BMC is a visualization of the income statement. It identifies pictorially the sources of a firm's revenues and the activities that a firm needs to engage in to generate these revenues. It also stimulates structured thinking around ways to raise a firm's gross profits by requiring students to figure out ways by which to increase revenues and to reduce the costs associated with revenue generation. References: https://corporatefinanceinstitute.com/resources/knowledge/strategy/business-model-canvas-template/ https://www.linkedin.com/pulse/value-proposition-interface-canvas-amancio-bouza-phd/
Economics	https://www.linkedin.com/learning/economics-for-business-leaders

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	https://www.linkedin.com/learning/paths/become-an-economist
Finance	https://www.linkedin.com/learning/build-your-financial-literacy
	https://www.linkedin.com/learning/financial-basics-everyone-should-know
	https://www.linkedin.com/learning/finance-foundations-2018
	https://www.linkedin.com/learning/paths/essential-new-skills-in-finance
Accounting	https://www.linkedin.com/learning/paths/develop-your-finance-and-accounting-skills
	https://www.linkedin.com/learning/financial-accounting-foundations/why-financial-accounting?autoplay=true&contextUrn=urn%3Ali%3AlyndaLearningPath%3A6217bca1498ef4d63ac1911a
	https://www.linkedin.com/learning/the-business-of-accounting
Case Analysis and Presentation Skills	**Firsthand – Guide to Case Interviews (see downloading instructions below)**
	You will also be required to download the following from the CCD Career Platform
	Firsthand.co – the guide to consulting case interviews. (NOTE: the guide is over 500 pages in length).
	• Visit Handshake - Schulich Career Platform at https://app.joinhandshake.com/edu/articles/13467 and login using Schulich email address and password
	• Click on the Firsthand logo and enter your Firsthand username and ID. If you do not have an existing account, you can create one (please ensure you use your Schulich email address when creating the account)
	• Once you have logged in, click on **Guides** at the Left-hand side

ASSESSMENT: Every module will have an assessment component. The intent is to ensure that students have engaged with the material and have attained a comprehensive understanding of the contents.

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RESPONSE TO OTHER RECOMMENDATIONS

We have reviewed all the comments made in the front-end of the report. While several of these are captured in the Overall Recommendations that you outline, some are not. We refer to those comments that are not reflected overall recommendations as "Other Recommendations." We identify these in the discussion below (**in blue font**) and provide responses to them (in regular font).

Other Recommendation 1:

Are the program's objectives clearly described?

The School proposes a full-time MBA program in Leading Technology-Enabled Organizations (MBAt). Its objectives are to:

- Transform technology developers into managers and leaders

- Create a start-up mindset

- Create inclusive thinkers

- Create effective team builders

- Create compelling communicators

Comments:

- More clarity is needed on the notion of Creating a "Startup Mindset". More clarity on the new start up or innovation practicum needs to be provided. The connectivity to Venture studio (term 4 course offering) needs to be better explained.

- Reference: "Commitment to Experiential Learning (page 7)":

  - The requirement to "work with technology developers to bring a new technology/product to market" is ill defined and may set too high a bar

  - More details needed on the following issues:

    (i)   Who are "technology developers"?

    (ii)   What is meant by "new product"?

    (iii)   Is it a digital app?

    (iv)   Is it covered in just one term?

    (v)   Which course is being referencing here?

    (vi)   Is it captured by Venture studio?

    Assuming this requirement relates to Venture Studio, a semester may be too short a time to "bring…a product to market" and that it may be difficult to find partners with this

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explicit goal. The Program may wish to modify or better define this goal to set expectations for students and partners.

Response to Other Recommendation 1

Based on these comments, we have made changes in 2 sections of the proposal document:

Change 1 is to the discussion under the heading: "Create a Startup Mindset" on p. 6

CURRENT	REVISED
By requiring students to interact with other stakeholders such as employees that are implementing the technology and customers, the program will encourage technology developers to advance innovations that are focused on outcomes, such as ensuring uptake of the technology by employees and on creating value in the life of customers that either acquire the technology or the products that result from the technology. As well, we expect that sustained stakeholder interaction will germinate new business ideas that build out the firm's ecosystem through the creation of value for specific stakeholder groups.	Identifying and executing on growth opportunities is a fundamental characteristic of effective leadership. The MBAt will enable students to identify growth opportunities, develop technological solutions to address these growth opportunities, and build business models that will facilitate the effective, efficient, and sustainable implementation of these technological solutions. Typically, stand-alone start-ups or start-up divisions within established companies work on the development of new technologies and business models. In the venture studio course, students will work with these types of start-up firms/divisions. Through this experience, they will be equipped with the skills needed to grow the businesses that they become part of upon graduation from the MBAt.

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Change 2 is to the discussion under the heading: "Commitment to Experiential Learning" on p. 7.

CURRENT	REVISED
The program makes an explicit and extensive commitment to experiential learning. Two observations will underscore the commitment. One, students will be required to complete an internship. Two, students will have to work with technology developers to bring a new technology/product to market. Three, all courses will be required – by design – to devote 30% of class time toward experiential learning initiatives in the form of discussions, case studies, simulations, and guest lectures.	The program makes an explicit and extensive commitment to experiential learning. Three observations will underscore the commitment. One, students will be required to complete an internship (the "Mandatory Internship" course). Two, students will have to work with start-us that are either stand-alone or distinct units within established businesses that are focused upon developing new technological solutions and business models to more effectively, efficiently, and sustainably address on-going business problems (the "Venture Studio" course). Three, all courses will be required – by design – to devote 30% of class time toward experiential learning initiatives in the form of discussions, case studies, simulations, and guest lectures.

Also, it is important to note that while the courses are identified as being specific to terms, the activities that are entailed will get initiated in prior terms. This is especially the case with the venture studio course. Whereas the course itself occurs in term 4, pre-

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boarding activities will commence in term 3, so students will begin the course being equipped with the necessary tools, concepts, and methodologies.

FAQ: Why do we need both a "Mandatory Internship" course and a "Venture Studio" course?

Answer: In the mandatory internship course, students will intern with large organizations (e.g. RBC) that are in the midst of undertaking digital transformation initiatives. In this course, students will intern on a specific digital transformation initiative and will learn why it is necessary, what resources are needed for digital transformation to be executed effectively, the leadership capabilities that are required, how groups are created to executed on tasks, and how conflicts are addressed. In other words, the mandatory internship courses focuses broadly on the implementation side of technology. By contrast, in the "Venture Studio" course, the focus is on technology and business model development. Here students learn how to develop new technology and business models to solve business problems. Taken together, the MBAt will give students both technology management and technology development skill-sets, thereby, in our view, making them very attractive to potential employers.

Other Recommendation 2

Is the degree nomenclature appropriate, given the program's objectives?

Comments:

- The shortening to "MBAt" could create some confusion as to the balance between tech leadership and tech fundamentals. The program focuses on leadership and strategy, not technology development fundamentals per se.

- Perhaps the current title "MBA in Leading Technology-Enabled Organizations" (MBAt) may be sharpened (e.g., "MBA in Tech Management & Leadership").

Response to Other Recommendation 2

We will change to title to MBA in Technology Leadership.

Other Recommendation 3

Are the program's objectives consistent with the institution's mission and academic plans?

The university's academic plan seeks (among other things) to foster interdisciplinary innovation, sustainable development, and global engagement, all of which are reflected in the program's objectives. (York University Academic Plan 2020-2025.)

Comments:

University Academic Plan (page 10): Need more clarity on whether students will be able to cross-register across other graduate programs such as

(a) Master of Management,

(b) Master of Business Analytics,

(c) Master of Management in Artificial Intelligence (MMAI), and,

(d) The proposed Master of Management and Engineering.

Will students be able to get double degrees from the school? Clarity on the cross-linkages across programs using an exhibit will be useful.

Response to Other Recommendation 3

MBAt students will be allowed to register for MBA electives in Terms 3 and 4. MBAt students will also enroll in 2 pre-determined electives from the Master of Business Analytics and Master of

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Management in Artificial Intelligence Programs. Apart from these 2 pre-determined electives, and the MBA electives, they will NOT be allowed to take courses for other Schulich Graduate Programs.

Other Recommendation 4:

As an example, see the discussion of Term 4 (Page 15): Course in strategy Plus practicum "In addition, students will work on identifying a business problem of a real-world organization, developing a technological solution for the client, and working with the client to ensure its implementation". More clarity can help here.

- Who identifies the problem?
- Who identifies the companies?
- What does "founder placement" or "additional mentor" model mean?
- How are these tied to the objective of critical analysis and decision- making, and,
- How will the Program ensure that outside mentors help students meet this objective?

Response to Other Recommendation 4

Please see the following change to the section "Term 4" on p. 15

EXISTING TEXT: Term 4	REVISED TEXT: Term 4
In the final term, students will take a course in strategy. The intent of this course is to enable them to transform their organization's technology into a source of competitive advantage within their organizations around why technological innovations are necessary from a competitive advantage perspective. In addition, students will work on identifying a business problem of a real-world organization, developing a technological solution for the client, and working with the client to ensure its implementation. This will	In the final term, students will take a course in strategy. The intent of this course is to enable them to transform their organization's technology into a source of competitive advantage within their organizations around why technological innovations are necessary from a competitive advantage perspective. In addition, students will take the Venture Studio course, the purpose of which is to instill in them a start-up mindset. To achieve this, students will work either

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give students the full cycle of technology development: (i) Articulation of strategic purpose of technology development, (ii) Development of the technological innovation, (iii) Implementation of the technological innovation, and, (iv) Ensuring attainment of the strategic purpose.	with a stand-alone start-up or one that is part of a larger organization. In either case, the focus of the business entity is on developing novel technological solutions and business models to address on-going business problems. The two courses in combination – one theoretical and the other practical – will give students a powerful lesson in how technology can generate competitive advantage for organizations.

<u>Other Recommendation 5</u>:

There is a need for training for skills in peoples' management that is currently missing in the program statement. Given the hybrid work culture, in the post-covid world, the employees may be geographically disbursed and not necessarily anchored to a physical location. Hence training in skills related to people's management are important in the new hybrid workplace.

Response to Other Recommendation 5

We will work with Professor Kevin Tasa (creator of ORGS 5201: Leading and Managing Digital Transformation (3.0) to devise new learning outcomes and to ensure that content is appropriately aligned with these new learning outcomes.

EXISTING LEARNING OUTCOMES	REVISED LEARNING OUTCOMES
In this course, students will learn to: 1. Practice the skills and abilities required to work with, lead, and influence people 2. Connect, persuade and motivate through effective charismatic behaviors	In this course, students will learn to: 1. Practice the skills and abilities required to work with, lead, and influence people 2. Connect, persuade and motivate through effective charismatic behaviors

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3. Improve the decision-making processes used in team and groups 4. Manage conflicts effectively, and, 5. Understand and design diversity and inclusion practices in organizations.	3. Improve the decision-making processes used in team andgroups 4. Manage conflicts effectively, 5. Understand and design diversity and inclusion practices in organizations, and, 6. Particular emphasis will be placed on managing issues relating to motivation, leadership, and conflict in the context of on-line and hybrid-mode teams, as such teams reflect the current reality.

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YORK UNIVERSITY

SCHULICH SCHOOL OF BUSINESS

Memorandum

To: Whom it may concern
From: Detlev Zwick, Dean
CC: Kevin Tasa, Associate Dean Academic, Ashwin Joshi, Associate Dean Programs,
             Kiridaran Kanagaretnam, Associate Dean Students
Date: August 16, 2022
Subject: Response to External Appraisers' Report of the MBA in Technology Leadership
             (MBAt) Program

Professor Matthew D'Amore (Cornell University) and Professor Madhu Kalimipalli (Wilfrid Laurier University) served as external appraisers for the MBA in Technology Leadership (MBAt) Program. My thanks to them for their strong endorsement of the program. The recommendations they have offered will advance the program ability to attain the learning objectives. As such, I am deeply grateful to the external appraisers for their thoughtful and constructive commentary.

In this memo, I will briefly (i) outline their recommendations, (ii) identify the program's responses to each of the recommendations, and (iii) provide my assessment of the School's capabilities to execute the responses to the recommendations.

Recommendation 1: Create Room in the Curriculum to Take additional electives

Response to Recommendation 1: Note that Master's students are permitted to take 18 credits per term. As such, in term 3 and term 4 of the MBAt, students will have the option of taking additional electives from the existing pool of MBA program electives.

Assessment of the School's Capabilities: There are over 50 electives that are offered each term in the Schulich MBA Program. As such, providing the MBAt students with the option to take MBA electives poses no constraints.

Recommendation 2: Change the Venture Studio Course from being a 6-credit course into two 3-credit courses. This will allow for a more even distribution of workload in the course.

Response to Recommendation 2: The program structure has been changed to align with this recommendation.

Assessment of the School's Capabilities: The course outline has been developed and an instructor is in place to teach this course (Chris Carder: https://schulich.yorku.ca/faculty/chris-carder/). As such, I foresee no challenges in implementing this recommendation.

Recommendation 3: Create room for more formal exposure to entrepreneurship and innovation.

Response to Recommendation 3: While the core program structure remains unchanged, note that students can take upto 3 three-credit MBA elective courses in each of term 3 and term 4 (i.e., students can take 6 MBA elective courses in addition to their regular workload). Students seeking to deepen their interest in innovation and entrepreneurship can do so by selecting elective courses in these areas.

Assessment of the School's Capabilities: There are 16 MBA electives in the Entrepreneurship specialization with the MBA that the MBAt students can choose from if they wish to deepen their expertise in this area (for the complete list, see: https://schulich.yorku.ca/specializations/entrepreneurial-studies/). As such, the School is well positioned to deliver more formal exposure to entrepreneurship to those MBAt students that seek it.

Recommendation 4: Ensure periodic program review.

Response to Recommendation 4: The program commits to implementing a periodic program review.

Assessment of the School's Capabilities: The newly developed Office of Curriculum Innovation and Teaching Excellence (CITE) (https://teachingandlearning.schulich.yorku.ca/schulichs-new-office-of-curriculum-innovation-and-teaching-excellence-cite/) will be tasked with conducting periodic program reviews to ensure that the curriculum and teaching quality are on track toward excellence. A new position has also been created – Associate Dean Programs. The purpose of this position is also to ensure that the program continues to innovate and evolve to meet changing marketplace needs. As such, the School has the infrastructure and the resources needed to conduct a periodic program review.

Recommendation 5: Ensuring Effectiveness of Online courses in Term 3 & 4

Response to Recommendation 5: The intent behind this recommendation is to ensure that the spirit of the cohort remains intact even as the students are working on separate projects across separate organizations. We are greatly appreciative of the appraisers for having made this comment. In response, the Venture Course has been modified to include two activities – one in Part A and one in Part B – both of which are designed to create a collective experience for the cohort, thereby bolstering the collective identity of the cohort.

Assessment of the School's Capabilities: Given the School's extensive experience with entrepreneurship (https://schulich.yorku.ca/news/staff-announcement-office-of-innovation-entrepreneurship/) and experiential education generally

(https://teachingandlearning.schulich.yorku.ca/ee-professional-development/) I do not see any challenges in implementing the responses as outlined above. The School does similar activities in entrepreneurship electives in the MBA program as well, so I am confident that the responses to this recommendation can be implemented.

Recommendation 6: Provide more detail on the pre-work and the use of the Business Model Canvas.

Response to Recommendation 6: Details on the Business Model Canvas and on the other modules are now included in the submission.

Assessment of the School's Capabilities: The School developed a pre-MBA Program to prepare students for the rigors of the program (https://gradblog.schulich.yorku.ca/flying-start-16/). I do not foresee any challenges in implementing a similar pre-MBAt program that provides students with the grounding that is necessary to absorb program content effectively.

Final Assessment

Based on my consideration of the external appraiser recommendations and the responses, my view is that the School has all the capabilities that are needed to implement the responses to the recommendations.

My thanks again to the appraisers, Professor Matthew D'Amore (Cornell University) and Professor Madhu Kalimipalli (Wilfrid Laurier University). Thanks to their commentary, it is my belief that we will have a better program that is ready for launch in September 2023.

Detlev Zwick, PhD
Dean & Tanna H. Schulich Chair in Digital Marketing Strategy
Schulich School of Business

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UNIVERSITY

**OFFICE OF THE
PROVOST & VICE-
PRESIDENT ACADEMIC**

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T 416 736 5280

Memorandum

To: Martin Bunch, Chair, ASCP

From: Lyndon Martin, Acting Provost & Vice-President Academic

Date: September 12, 2022

Subject: MBA in Technology Leadership, Schulich School of Business

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I have reviewed the report of the external reviewers for the proposed professional Master of Technology Leadership (MBAt) and reiterate my office's support for this program, proposed by the Schulich School of Business.

The MBAt is designed to offer employment-ready training to students with technical and STEM backgrounds to build management expertise with a "startup mindset" that will equip graduates with the methods and orientation for leadership roles in technology management and development. With strong commitments to equity, diversity and inclusion and to minimizing environmental impact, this professional training program is unique in Canada in responding to an industry-identified need for people who can create business value from technologies.

This program makes excellent use of resources that are in place already within the Business School and builds on the expertise of full-time faculty in aligned areas. Existing student and career services, library and IT access and physical space are sufficient to support this new degree. With a strong emphasis on experiential education, a core of professional development courses and a field study component to the capstone project, the MBAt offers a full-time, 16-month program that will equip graduates to identify growth opportunities, develop appropriate technological solutions and facilitate effective implementation of these solutions.

Reflecting the priorities addressed in the University's 2020-2025 Academic Plan, this graduate program particularly manifests the concerns for 21st Century Learning in its emphasis on problem-solving skills, collaboration across disciplines, experiential and professional learning, flexible delivery options and developing local partnerships.

Change to Graduate Program/Graduate Diploma Academic Requirements Proposal Form
Schulich School of Business

1. Graduate Program:

Master of Management in Artificial Intelligence

2. Effective Term/Calendar Year of Proposed Changes:

Summer 2023

3. Proposed Changes and Rationale:

Motion 1: That Faculty Council approves changing the first term of the MMAI Program from the Fall to Summer term starting Summer 2023.

Motion 2: That Faculty Council approves the removal of the following 3 core courses from the MMAI program

1. MMAI 5300 3.0   Numerical Methods and Analysis
2. ORGS 6350 3.0   Managing Change
3. ORGS 6500 3.0   Interpersonal Managerial Skills

Motion 3: That Faculty Council approves the addition of the following 3 core courses to the MMAI program

1. MBAN 6110 3.0   Data Science I
2. MBAN 5110 3.0   Predictive Modelling
3. OMIS 6750 3.0   Project Management

Rationale Motion 1:

Having a one year graduate program that starts in May and ends by April of every year better synchronizes with the "hiring season" for our graduating business analysts as dictated by industry. It also gives our students a first term (i.e. Summer) during which they can become familiar with their new career path and be career coached before the hiring process begins in the Fall.   In addition, this will make the synchronization of courses shared in common with the Master of Business Analytics (MBAN) program and other programs easier to staff and coordinate. The MBAN program currently starts in the Summer term.

This change will not require any changes to the MMAI program other than scheduling. The Fall 2022 cohort will be the last cohort to start in the Fall term.

Rationale Motion 2&3:

The Schulich School of Business is committed to having two, one year masters level graduate programs in analytics. The 12-year-old Masters of Business Analytics (MBAN) program produces business analysts for a broad cross section of organizations. The more recent 3-year-old Masters of Managing Artificial Intelligent (MMAI) program is more focused on the emerging application of artificial intelligence technologies and their management especially in business analytics. In short the MMAI overlaps the MBAN program but goes deeper into one field of practice in advanced analytics requiring a different allocation of program credit hours to provide the requisite learning.

In consultation with students, instructors and on reflection as to what MMAI students have been doing in their capstone projects for client organizations, we see some opportunities to streamline both programs by sharing common courses. This also makes the continuous revision of content required for this fast paced field of study easier by reducing the variety of courses covering similar topics in both the MBAN and MMAI programs. This requires removing some courses that are redundant or are not effective in supporting the learning objectives of the program and replacing them with others. The benefit to students is more time spent on a few key topics and less on peripheral topics or the repetition of content. This does not change the overall learning objectives of the MMAI program. All the changes in this motion involve required core courses.

To be clear, we are introducing no new courses but rather adding existing courses after we have removed other courses to make room. We then sequence the courses to fit into the existing structure of 3 terms and 45 credit hours to complete the program. There is no requirement for changes in prerequisites. The resequencing is necessary to better manage the cumulative learning from introductory to advanced concepts and theory to application. The end result is two programs that share 24 credit hours in common. The remaining 21 credits hours are unique to each program and differentiate one program from the other.

The proposed changes will result in the following breakdown of course shared in common and those that are different between MBAN and MMAI programs as described above:

Common to MBAN and MMAI (24 Credits)	
MMAI 5000	Artificial Intelligence Fundamentals
MMAI 5100	Database Fundamentals
MBAN 6110	Data Science I
MBAN 5110	Predictive Modelling
MBAN 5140	Visual Analytics And Modelling
OMIS 6750	Project Management
MGMT 6300	Case Analysis And Presentation Skills

PHIL 5340	Ethics And Societal Implications Of Artificial Intelligence
MMAI (21 Credits)	
MMAI 5040	Business Applications Of Artificial Intelligence I
MMAI 5090	Business Applications Of Artificial Intelligence II
MMAI 5400	Natural Language Processing
MMAI 5500	Applications Of Neural Networks And Deep Learning In Business
MMAI 5200	Algorithms For Business Analysis
MMAI 6050 (6.0 credits)	Artificial Intelligence Consulting Project (Over two terms)
MBAN (21 Credits)	
MBAN 6120	Data Science II
OMIS 6000	Models & Applications In Operational Research
3 MBA electives (9.0 Credits)	Chosen from an approved list
MBAN 6090 (6.0 Credits)	Analytic Consulting Project (Over two terms)

See Appendix 1 for current and proposed Curriculum Map.

4. Changes in Calendar:

Existing Graduate Program/Graduate Diploma Information (Change From):	Proposed Graduate Program/Graduate Diploma Information (Change To):
Title: Master of Managing Artificial Intelligence	Title: Master of Managing Artificial Intelligence
The Graduate Program in Management in Artificial Intelligence (MMAI) is designed to prepare individuals to seek and obtain meaningful employment in artificial intelligence (AI)-related management positions, whether in private, public or non-profit organizations. AI-related fields include, but are not limited to: data science, machine learning, visualizations, natural language understanding, intelligent robotics, knowledge representation, reasoning and management, intelligent agents, human computer interfaces, and recommendation systems. This graduate program addresses a growing need in post-graduate management education for programs that train students in the tasks of designing, evaluating, refining and	The Graduate Program in Management in Artificial Intelligence (MMAI) is designed to prepare individuals to seek and obtain meaningful employment in artificial intelligence (AI)-related management positions, whether in private, public or non-profit organizations. AI-related fields include, but are not limited to: data science, machine learning, visualizations, natural language understanding, intelligent robotics, knowledge representation, reasoning and management, intelligent agents, human computer interfaces, and recommendation systems. This graduate program addresses a growing need in post-graduate management education for programs that train students in the tasks of designing, evaluating, refining and

implementing practical AI related solutions and technologies. The degree focuses on strategic thinking, tactical decision making, design techniques and ethics in AI. The objective is to produce well-rounded managers who have the potential to become leaders in AI-management. The program achieves these objectives over the course of three terms and the completion of 45 credits, and is structured to facilitate the acquisition of AI and management knowledge and skills. A key component is the integration of the acquired knowledge through a capstone community-involved experiential learning project, the AI Consulting Project. This project takes place during the second and third terms. Please visit http://schulich.yorku.ca for more information.

ADMISSION REQUIREMENTS The minimum admission requirements are as follows: Applicants should possess an undergraduate degree from a recognized postsecondary institution with a minimum B+ average in the last two full years (or equivalent) of academic work. To be considered for admission to the MMAI program, applicants must have an undergraduate degree from a postsecondary institution in one of the following subjects: mathematics, business, computer science, economics, engineering or science. Successful applicants will have completed at least one university course on a listed topic, from at least two of the three categories below. Mathematics/Statistics w introductory statistics w calculus w data mining and machine learning w introduction to data science w linear algebra Computer Science w introduction to programming w introduction to data structures w algorithms w introduction to databases w data mining Business w business intelligence w data management

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w data Science for business w artificial intelligence for business w business analytics ϖwork experience is not required, but internships or prior work experience is recommended; ϖdemonstration of academic ability through high GMAT/GRE are recommended but not required; ϖproof of English language proficiency if prior studies were not completed in English: Test of English as a Foreign Language (iBT): 100 with minimum component scores of 23 or International English Language Testing System: 7.0 overall with minimum component scores of 6.5; ϖa supplementary application form that shows strong evidence of leadership ability; and, ϖtwo letters of recommendation, at least one of which should be from a professor.

DEGREE REQUIREMENTS Students must successfully complete: ϖ45 credits of coursework, consisting of: ϖ39 credits from 13 required 3.0 credit courses and, ϖ6 credits from an experiential capstone project. All other requirements are identical to those of Schulich's other master's programs.

PROGRAM ENTRY The MMAI program can be completed on a full-time basis. Entry is ~~fall~~ term.

 PROGRAM LENGTH The Graduate Program in Management in Artificial Intelligence is a three-term program

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PROGRAM ENTRY The MMAI program can be completed on a full-time basis. Entry is <mark>summer</mark> term.

 PROGRAM LENGTH The Graduate Program in Management in Artificial Intelligence is a three-term program

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MMAI Current Curriculum	MMAI Proposed Curriculum
Term I (Fall Term)	Term I (Summer Term)
MMAI 5000 3.0 Artificial Intelligence Fundamentals MMAI 5100 3.0 Database Fundamentals MMAI 5200 Algorithms for Business Analysis PHIL 5340 3.0 Ethics of AI MGMT 6300 3.0 Case Analysis and Presentation Skills	MMAI 5000 3.0 Artificial Intelligence Fundamentals MMAI 5100 3.0 Database Fundamentals MBAN 6110 3.0 Data Science I OMIS 6750 3.0 Project Management MGMT 6300 3.0 Case Analysis and Presentation Skills
Term II (Winter Term)	Term II (Fall Term)
MMAI 5040 3.0 Business Applications of Artificial Intelligence I MBAN 5140 3.0 Visual Analytics and Modelling MMAI 5300 3.0 Numerical Analysis ORGS 6350 3.0 Managing Change MMAI 6050 6.0 AI Consulting Project	MMAI 5040 3.0 Business Applications of Artificial Intelligence I MBAN 5110 3.0 Predictive Modelling MMAI 5400 3.0 Natural Language Processing MMAI 5500 3.0 Applications of Neural Networks and Deep Learning in Business MMAI 6050 6.0 AI Consulting Project
Term III (Summer Term)	Term III (Winter Term)
MMAI 5090 3.0 Business Applications of Artificial Intelligence II MMAI 5500 3.0 Applications of Neural Networks and Deep Learning in Business MMAI 5400 3.0 Natural Language Processing ORGS 6500 3.0 Interpersonal Managerial Skills MMAI 6050 6.0 AI Consulting Project	MMAI 5090 3.0 Business Applications of Artificial Intelligence II MMAI 5200 Algorithms for Business Analysis MBAN 5140 3.0 Visual Analytics and Modelling PHIL 5340 3.0 Ethics of AI MMAI 6050 6.0 AI Consulting Project

Legend:
Courses removed: strikethrough/red font
Courses Added: Bold/yellow highlight
Courses moved or edited: strikethrough/underlined/green highlight

April 2022

MEMO

To: Kathryn White, Assistant Secretary of the University, University Secretariat

From: Julian Scott Yeomans, Professor, Director MMAI & MMAI Programs, SSB

Re: ASCP Feedback on MMAI and MBAN proposals

Date: November 20, 2022

In response to the queries from the Academic Standards, Curriculum and Pedagogy Committee (ACSP) regarding proposed changes to the Master of Business Analytics (MBAN) and Master of Management in Artificial Intelligence (MMAI), the following requested clarifications are provided:

Implications of the changed start date for the application process and/or for incoming students
- The implications for the changed start date in the recruiting cycle of the MMAI students are such that the recruiting efforts for both the MMAI & MBAN programs can now be much more effectively combined and co-ordinated – rather than split into two separate, parallel efforts with a 4-month time lag between the two.
- During this year's recruiting cycle, it has been made apparent to prospective MMAI students that the proposed start date would now become May rather than September. By co-ordinating the start dates for both programs, this has actually facilitated the communications process with potential students for the 2023-24 academic year.
- In addition, there are frequently numerous students who wish to choose between entering into *either* the MBAN *or* the MMAI programs – for these applicants, the overall decision process now makes much more "sense" by synchronizing the start times of the programs to a common date.
- Furthermore, there were a several international students (10-15) who were accepted to the MMAI program for the 2022-23 academic year, who planned to attend, but were unable to have their visas processed in time. Their admission has been postponed to the subsequent 2023-24 session and most of these students are now planning to attend in the upcoming academic year. Hence, the 2023-24 program attendance has already received a "numbers boost" and several of these delayed students have indicated that they are keen to start their programs as soon as feasibly possible. Thus, the move to a May point-of-entry would be readily welcomed and appreciated by these students.

Curriculum maps reflecting updates to the proposed new degree requirements
- Curriculum maps for both the updated MBAN and MMAI course requirements have been constructed and provided.

Confirmation that the proposed degree requirements will continue to enable students to meet the program learning outcomes. For example, the Committee wonders if the outcomes related to managerial skills will be met as the Interpersonal Managerial Skills course is being removed*.*

- The depth and breadth of both programs is most definitely maintained and, in many respects, will be significantly enhanced by these new updates. The analytical and technical skill components always needs to be continuously updated and upgraded to reflect the ever-evolving nature of the computing field(s). Furthermore, the overall analytical training is considerably supplemented by the classes in presentation skills, project management, and the ethics & societal implications of their implementation in practice. All of these in combination are then put into "real world" practice and leveraged by the strong experiential learning components from the concurrent, team-based, 8-month industry consulting projects.

- With respect to the question about the removal of the "Interpersonal Managerial Skills" course and a potential for any resulting detrimental changes to overall "managerial skills" development, there are two related responses.

(i) The removed course focuses upon *interpersonal* management – namely, how people-relate-to-people. If one examines the "Course Learning Outcomes" section in the "Project Management" Course Outlines provided in the two program change documents (page 37 of the MMAI document, page 59 in the MBAN document), it can be observed that interpersonal aspects are an emphasized component of this course. Namely, in working on any project, the students must deal directly with team peers, supervisors, subordinates, etc. in addition to a wide spectrum of participants within the host organization (from data analysts/scientists, to administrative support, to various managerial/functional personnel, all the way up to CEOs & company founders). Effectively dealing with and managing these disparate roles becomes an inherent component in the training provided by this class. Hence, the interpersonal management aspects from the removed course have been directly substituted by the material and approaches within the project management class. In addition, the presentations course emphasizes how to communicate with different parties and levels within organizations.

(ii) As noted in (i) and above, there are several "non-analytical" courses that together maintain the managerial training of the programs. The material from these courses is considerably reinforced in "real life" by the very practical nature of the experiential learning in the industry consulting projects of both programs. The simultaneous benefits from this approach are that the teaching-enhances-the-practice and that the practice-enhances-the-teaching in a very synergistic fashion.

Consequently, any managerial skills potentially lost from the replaced components have been superseded by the enhanced managerial skills reinforcement emphasized in the other "breadth" components of the updated program.

Credit value for MMAI 5200, Algorithms for Business Analysis*.*
- The credit value for the course, *MMAI 5200, Algorithms for Business Analysis*, is 3.0.
- All taught courses in the respective programs are one-term, 3.0 courses, as is the case for essentially all Schulich courses.
- The only exception to the 3.0 course credit statement within the MBAN/MMAI program structure occurs with the respective consulting projects (MBAN 6090, MMAI 6050) which are both 2-term, 6.0 credits.

	Term 1					Term 2					Term 3				
MMAI 2023-24 Program Level Learning Outcomes	OMIS 6750 Project Management	MBAN 6110 Data Science 1	MGMT 6300 Case Analysis & Presentation Skills	MMAI 5000 AI Fundamentals	MMAI 5100 Database Fundamentals	MBAN 5110 Predictive Modelling	MMAI 5040 Business Applications of AI 1	MMAI 5400 Natural Language Processing	MMAI 5500 Applications of Neural Networks & Deep Learning in Business	MMAI 6050 AI Consulting Project	GS/PHIL 5340 Ethics and Societal Implications of AI	MBAN 5140 Visual Analytics & Modelling	MMAI 5090 Business Applications of AI 2	MMAI 5200 Algorithms for Business Analysis	MMAI 6050 AI Consulting Project
1. Analytical Skills and Enhanced Decision-Making															
1.1. Apply big data analysis tools and techniques to enhance business decision making.	I	I		I	I	I	I	D	D	R			D	D	A
1.2. Design data-science solutions for problems commonly found in business.		I	I	I	I	I	D	D	D	A			R	D	A
1.3. Manage a business analytics project through all phases of the data science lifecycle.	I	I		I	I	R	D	R	R	R			R	R	A
1.4. Apply mathematical, statistical, and machine learning foundations of AI in the context of an evidence-based business decision support process.		I					R	D	D				R	D	
1.5. Apply strategic thinking skills to managerial decision making.	R						R			A	R	R	R	R	A
1.6. Recognize the limitations of theoretical models, techniques, and empirical findings.		I	I	I		R	I	D	D				R	R	
2. Professional Communication															
2.1. Prepare and deliver an effective and engaging oral presentation for both technical and non-technical audiences.	D		D				D			R		I	R		R
2.2. Prepare an effective and engaging written report for both technical and non-technical audiences.	D		D				D	R	R	R		I	R		R
2.3. Apply strategies to work effectively in interdisciplinary teams.	R		A				I					R	R		
3. Ethics & Social Responsibility															
3.1. Identify the ethical and social responsibilities related to the collection, analysis and reporting of the data.	I		I								R	A			R
3.2. Describe, analyze, and devise solutions for ethical and social issues that arise in business analytics.	I		I								R	A			R

I= Introduced, D= Developed, R= Reinforced, A= Assessed individually for Achievement

Change to Graduate Program/Graduate Diploma Academic Requirements Proposal Form
Schulich School of Business

1. Graduate Program:

Master of Business Analytics (MBAN)

2. Effective Term/Calendar Year of Proposed Changes:

Summer 2023

3. Proposed Changes and Rationale:

Motion 1: Remove the following 3 required courses from the MBAN program
1. MBAN 5330 3.0   Big Data Fundamentals and Applications,
2. MBAN 6200 3.0   Realizing Value from AI and Analytics in Organization
3. ORGS 6500 3.0   Interpersonal Managerial Skills

Motion 2: Add the following 3 courses as required to the MBAN program
1. MMAI 5100 3.0   Data Base Fundamentals
2. MMAI 5000 3.0   Artificial Intelligence Fundamentals
3. MGMT 6300 3.0   Case Analysis and Presentation Skills

Motion 3: That Faculty Council approves the change to rubric and course number for the MBAN core course MGMT 6700 3.00, to OMIS 6750 3.00.

Motion 4: That Faculty Council approves adding the following two electives to the MBAN program starting Summer 2023.

1. MKTG 5200   Marketing Management
2. FINE 5200   Managerial Finance

Rationale Motions 1&2:

The Schulich School of Business is committed to having two, one year masters level graduate programs in analytics. The 12-year-old Masters of Business Analytics (MBAN) program produces business analysts for a broad cross section of organizations. The more recent 3-year-old Masters of Managing Artificial Intelligent (MMAI) program is more focused on the emerging application of artificial intelligence technologies and their management. In short the MMAI overlaps the MBAN program but goes deeper into one

field of practice in advanced analytics requiring a different allocation of program credit hours to provide the requisite learning.

In consultation with students, instructors and on reflection as to what MBAN students have been doing in their capstone projects for client organizations, we see some opportunities to streamline both programs by sharing common courses. This also makes the continuous revision of content required for this fast paced field of study easier by reducing the variety of courses covering similar topics. This requires removing some courses that are redundant or are not effective in supporting the learning objectives of the program and replacing them with others. The benefit to students is more time spent on a few key topics and less on peripheral topics or the repetition of content. This does not change the overall learning objectives of the MBAN program. All the changes in this motion involve required core courses.

To be clear, we are introducing <u>no</u> new courses but rather adding existing courses after we have removed other courses to make room. We then sequence the courses to fit into the existing structure of 3 terms and 45 credit hours to complete the program. The resequencing is necessary to better manage the cumulative learning from introductory to advanced concepts and theory to application. There is no requirement for changes in prerequisites. The end result is two programs that share 24 credit hours in common. The remaining 21 credits hours are unique to each program and differentiate one program from the other.

The proposed changes will result in the following breakdown of course shared in common and those that are different between programs as described above:

Common to MBAN and MMAI (24 Credits)	
MMAI 5000	Artificial Intelligence Fundamentals
MMAI 5100	Database Fundamentals
MBAN 6110	Data Science I
MBAN 5110	Predictive Modelling
MBAN 5140	Visual Analytics And Modelling
OMIS 6750	Project Management
MGMT 6300	Case Analysis And Presentation Skills
PHIL 5340	Ethics And Societal Implications Of Artificial Intelligence
MMAI (21 Credits)	
MMAI 5040	Business Applications Of Artificial Intelligence I
MMAI 5090	Business Applications Of Artificial Intelligence II
MMAI 5400	Natural Language Processing
MMAI 5500	Applications Of Neural Networks And Deep Learning In Business
MMAI 5200	Algorithms For Business Analysis
MMAI 6050 (6.0 credits)	Artificial Intelligence Consulting Project (Over two terms)

MBAN (21 Credits)	
MBAN 6120	Data Science II
OMIS 6000	Models & Applications In Operational Research
3 MBA eletives (9.0 Credits)	Mkting, Finance, Operations and/or Healthcare
MBAN 6090 (6.0 Credits)	Analytic Consulting Project (Over two terms)

See Appendix 1 for current and proposed Curriculum Map.

Rationale Motion 3:

- MGMT 6700 3.00 has been, and will likely continue to be, staffed and taught by faculty from the OMIS Area. As such, it makes more sense to identify the course with the area responsible for course content and staffing. This will also allow OMIS faculty members to monitor the course in order to respond to changing market competencies.

- The number changes because OMIS 6700 is already taken.

Rationale Motion 4:

Master of Business Analytics (MBAN) students are allowed to take three elective graduate level courses over the one year span of the program. One elective course in their 2nd term and two electives in their 3rd term. There is an approved list of elective courses offered outside of the MBAN and MMAI programs that give students choice in how they broaden their understanding of business and their management skills. Experience to date has indicated that not all courses are available every term therefore there is a need for an extensive list eligible courses. In addition, many of the 6000 level courses require 5000 level introductory courses as prerequisite. For some students with business degrees this is not a problem and the program director has been able to approve enrollment in most of the 6000 level courses on a case-by-case basis. For non-business students such as those with undergraduate degrees in engineering and math they may struggle in the 6000 level course with out the 5000 level course.

The intent of these changes will be enabled by emphasizing in the communication and coaching to students. That is, students wishing to take the range of Finance and Marketing courses on offer need to take one of the 5000 level courses as their first elective choice in 2nd term of the MBAN program to be eligible for the full range of 6000 level courses in their 3rd term. There is precedent for this in the ACTG 5100 Managerial Accounting course is already on the MBAN approved list.

Current Elective List	Proposed Elective List
ACTG 5210 -- Management Accounting ECON 6210 -- Economic Forecasting and Analysis	ACTG 5210 -- Management Accounting ECON 6210 -- Economic Forecasting and Analysis

FINE 6310 -- Econometrics of Financial Markets	FINE 5200 – Managerial Finance
FNSV 6700 -- Management of Risk in Financial Institutions	FINE 6310 -- Econometrics of Financial Markets
FNSV 6990 -- Enterprise Risk Management & Strategy	FNSV 6700 -- Management of Risk in Financial Institutions
MBAN 6500 -- Business Applications in AI	FNSV 6990 -- Enterprise Risk Management & Strategy
MBAN 6510 -- Business Applications in AI II	MBAN 6500 -- Business Applications in AI
MKTG 6050 -- Marketing Research	MBAN 6510 -- Business Applications in AI II
MKTG 6150 -- Consumer Behaviour	MKTG 5200 – Marketing Management
MKTG 6250 -- Business Marketing	MKTG 6050 -- Marketing Research
MKTG 6300 -- Service Marketing	MKTG 6150 -- Consumer Behaviour
MKTG 6360 -- Marketing Metrics	MKTG 6250 -- Business Marketing
OMIS 6350 -- Advanced Spreadsheet & Programming for Business	MKTG 6300 -- Service Marketing
OMIS 6560 -- Supply Chain Management	MKTG 6360 -- Marketing Metrics
OMIS 6955 -- Service Operations Management	OMIS 6350 -- Advanced Spreadsheet & Programming for Business
ORGS 6350 -- Managing Change	OMIS 6560 -- Supply Chain Management
ORGS 6560 -- Negotiations	OMIS 6955 -- Service Operations Management
	ORGS 6350 -- Managing Change
	ORGS 6560 -- Negotiations

4. Changes in Calendar: None

Existing Graduate Program/Graduate Diploma Information (Change From):	Proposed Graduate Program/Graduate Diploma Information (Change To):

MBAN Current Curriculum	MBAN Proposed Curriculum
Term I (Summer Term)	Term I (Summer Term)
~~MBAN 6200 3.0 Realizing Value from AI and Analytics in Organizations~~	**MMAI 5000 3.0 Artificial Intelligence Fundamentals**
~~MBAN 5140 3.0 Visual Analytics and Modelling~~	**MMAI 5100 3.0 Database Fundamentals**
MBAN 6110 3.0 Data Science I	MBAN 6110 3.0 Data Science I
~~MBAN 5330 3.0 Big Data Fundamentals & Applications~~	~~OMIS 6750~~ 3.0 Project Management (moved from fall)
~~Elective I (MBA or MBAN electives)~~	**MGMT 6300 3.0 Case Analysis and Presentation Skills**
Term II (Fall Term)	Term II (Fall Term)
MBAN 5110 3.0 Predictive Modelling	MBAN 5110 3.0 Predictive Modelling
~~MGMT 6700~~ 3.0 Project Management	MBAN 6120 3.0 Data Science II
MBAN 6120 3.0 Data Science II	MBAN 6090 6.0 Analytics Consulting Project
MBAN 6090 6.0 Analytics Consulting Project	~~OMIS 6000 3.0 Models & Applications in Operational Research~~
~~Elective II (MBA or MBAN electives)~~	(moved from winter)
	~~Elective I (MBA or MBAN electives)~~ (moved from summer)
Term III (Winter Term)	Term III (Winter Term)
~~ORGS 6500 3.0 Interpersonal Managerial Skills~~	~~MBAN 5140 3.0 Visual Analytics and Modelling~~ (moved from summer)
~~OMIS 6000 3.0 Models & Applications in Operational Research~~	GS/PHIL 5340 3.0 Ethics and Societal Implications of AI
GS/PHIL 5340 3.0 Ethics and Societal Implications of AI	MBAN 6090 6.0 Analytics Consulting Project
MBAN 6090 6.0 Analytics Consulting Project	~~Elective II (MBA or MBAN electives)~~ (moved from summer)
Elective III (MBA or MBAN electives)	Elective III (MBA or MBAN electives)

Legend:
Courses removed: strikethrough/red font
Courses Added: Bold/yellow highlight
Courses moved or edited: strikethrough/underlined/green highlight

April 2022

Current Elective List	Proposed Elective List
ACTG 5210 -- Management Accounting	ACTG 5210 -- Management Accounting
ECON 6210 -- Economic Forecasting and Analysis	ECON 6210 -- Economic Forecasting and Analysis
FINE 6310 -- Econometrics of Financial Markets	FINE 5200 – Managerial Finance
FNSV 6700 -- Management of Risk in Financial Institutions	FINE 6310 -- Econometrics of Financial Markets
FNSV 6990 -- Enterprise Risk Management & Strategy	FNSV 6700 -- Management of Risk in Financial Institutions
MBAN 6500 -- Business Applications in AI	FNSV 6990 -- Enterprise Risk Management & Strategy
MBAN 6510 -- Business Applications in AI II	MBAN 6500 -- Business Applications in AI
MKTG 6050 -- Marketing Research	MBAN 6510 -- Business Applications in AI II
MKTG 6150 -- Consumer Behaviour	MKTG 5200 – Marketing Management
MKTG 6250 -- Business Marketing	MKTG 6050 -- Marketing Research
MKTG 6300 -- Service Marketing	MKTG 6150 -- Consumer Behaviour
MKTG 6360 -- Marketing Metrics	MKTG 6250 -- Business Marketing
OMIS 6350 -- Advanced Spreadsheet & Programming for Business	MKTG 6300 -- Service Marketing
OMIS 6560 -- Supply Chain Management	MKTG 6360 -- Marketing Metrics
OMIS 6955 -- Service Operations Management	OMIS 6350 -- Advanced Spreadsheet & Programming for Business
ORGS 6350 -- Managing Change	OMIS 6560 -- Supply Chain Management
ORGS 6560 -- Negotiations	OMIS 6955 -- Service Operations Management
	ORGS 6350 -- Managing Change
	ORGS 6560 -- Negotiations

April 2022

MBAN 2023-24 Program Level Learning Outcomes	OMIS 6750 Project Management	MBAN 6110 Data Science 1	MGMT 6300 Case Analysis & Presentation Skills	MMAI 5000 AI Fundamentals	MMAI 5100 Database Fundamentals	MBAN 5110 Predictive Modelling	MBAN 6120 Data Science 2	OMIS 6000 Models & Applications in Operational Research	Elective 1	MBAN 6090 Analytics Consulting Project	GS/PHIL 5340 Ethics & Societal Implications of AI	MBAN 5140 Visual Analytics & Modelling	Elective 2	Elective 3	MBAN 6090 Analytics Consulting Project
Term 1						**Term 2**					**Term 3**				
1. Analytical Skills and Enhanced Decision-Making															
1.1. Apply big data analysis tools and techniques to enhance business decision making.	I	I		I	I	I	D	R		R					A
1.2. Design data-science solutions for problems commonly found in business.		I	I	I	I	I		R		A					A
1.3. Manage a business analytics project through all phases of the data science lifecycle.	I	I		I	I	R	A			R					A
1.4. Apply mathematical, statistical, and machine learning foundations of AI in the context of an evidence-based business decision support process.		I						R							
1.5. Apply strategic thinking skills to managerial decision making.	R									A	R	**R**			A
1.6. Recognize the limitations of theoretical models, techniques, and empirical findings.		I	I	I		R	D	A							
2. Professional Communication															
2.1. Prepare and deliver an effective and engaging oral presentation for both technical and non-technical audiences.	D		D							R		**R**			R
2.2. Prepare an effective and engaging written report for both technical and non-technical audiences.	D		D							R		**R**			R
2.3. Apply strategies to work effectively in interdisciplinary teams.	D		A							R					
3. Ethics & Social Responsibility															
3.1. Identify the ethical and social responsibilities related to the collection, analysis and reporting of the data.	I		I							R	A				R
3.2. Describe, analyze, and devise solutions for ethical and social issues that arise in business analytics.	I		I							R	A				R

I= Introduced, D= Developed, R= Reinforced, A= Assessed individually for Achievement

MEMO

To: Kathryn White, Assistant Secretary of the University, University Secretariat

From: Julian Scott Yeomans, Professor, Director MMAI & MMAI Programs, SSB

Re: ASCP Feedback on MMAI and MBAN proposals

Date: November 20, 2022

In response to the queries from the Academic Standards, Curriculum and Pedagogy Committee (ACSP) regarding proposed changes to the Master of Business Analytics (MBAN) and Master of Management in Artificial Intelligence (MMAI), the following requested clarifications are provided:

Implications of the changed start date for the application process and/or for incoming students
- The implications for the changed start date in the recruiting cycle of the MMAI students are such that the recruiting efforts for both the MMAI & MBAN programs can now be much more effectively combined and co-ordinated – rather than split into two separate, parallel efforts with a 4-month time lag between the two.
- During this year's recruiting cycle, it has been made apparent to prospective MMAI students that the proposed start date would now become May rather than September. By co-ordinating the start dates for both programs, this has actually facilitated the communications process with potential students for the 2023-24 academic year.
- In addition, there are frequently numerous students who wish to choose between entering into *either* the MBAN *or* the MMAI programs – for these applicants, the overall decision process now makes much more "sense" by synchronizing the start times of the programs to a common date.
- Furthermore, there were a several international students (10-15) who were accepted to the MMAI program for the 2022-23 academic year, who planned to attend, but were unable to have their visas processed in time. Their admission has been postponed to the subsequent 2023-24 session and most of these students are now planning to attend in the upcoming academic year. Hence, the 2023-24 program attendance has already received a "numbers boost" and several of these delayed students have indicated that they are keen to start their programs as soon as feasibly possible. Thus, the move to a May point-of-entry would be readily welcomed and appreciated by these students.

Curriculum maps reflecting updates to the proposed new degree requirements
- Curriculum maps for both the updated MBAN and MMAI course requirements have been constructed and provided.

Confirmation that the proposed degree requirements will continue to enable students to meet the program learning outcomes. For example, the Committee wonders if the outcomes related to managerial skills will be met as the Interpersonal Managerial Skills course is being removed.

- The depth and breadth of both programs is most definitely maintained and, in many respects, will be significantly enhanced by these new updates. The analytical and technical skill components always needs to be continuously updated and upgraded to reflect the ever-evolving nature of the computing field(s). Furthermore, the overall analytical training is considerably supplemented by the classes in presentation skills, project management, and the ethics & societal implications of their implementation in practice. All of these in combination are then put into "real world" practice and leveraged by the strong experiential learning components from the concurrent, team-based, 8-month industry consulting projects.

- With respect to the question about the removal of the "Interpersonal Managerial Skills" course and a potential for any resulting detrimental changes to overall "managerial skills" development, there are two related responses.

(i) The removed course focuses upon *interpersonal* management – namely, how people-relate-to-people. If one examines the "Course Learning Outcomes" section in the "Project Management" Course Outlines provided in the two program change documents (page 37 of the MMAI document, page 59 in the MBAN document), it can be observed that interpersonal aspects are an emphasized component of this course. Namely, in working on any project, the students must deal directly with team peers, supervisors, subordinates, etc. in addition to a wide spectrum of participants within the host organization (from data analysts/scientists, to administrative support, to various managerial/functional personnel, all the way up to CEOs & company founders). Effectively dealing with and managing these disparate roles becomes an inherent component in the training provided by this class. Hence, the interpersonal management aspects from the removed course have been directly substituted by the material and approaches within the project management class. In addition, the presentations course emphasizes how to communicate with different parties and levels within organizations.

(ii) As noted in (i) and above, there are several "non-analytical" courses that together maintain the managerial training of the programs. The material from these courses is considerably reinforced in "real life" by the very practical nature of the experiential learning in the industry consulting projects of both programs. The simultaneous benefits from this approach are that the teaching-enhances-the-practice and that the practice-enhances-the-teaching in a very synergistic fashion.

Consequently, any managerial skills potentially lost from the replaced components have been superseded by the enhanced managerial skills reinforcement emphasized in the other "breadth" components of the updated program.

Credit value for MMAI 5200, Algorithms for Business Analysis*.*
- The credit value for the course, *MMAI 5200, Algorithms for Business Analysis*, is 3.0.
- All taught courses in the respective programs are one-term, 3.0 courses, as is the case for essentially all Schulich courses.
- The only exception to the 3.0 course credit statement within the MBAN/MMAI program structure occurs with the respective consulting projects (MBAN 6090, MMAI 6050) which are both 2-term, 6.0 credits.

MMAI 2023-24 Program Level Learning Outcomes	Term 1					Term 2					Term 3				
	OMIS 6750 Project Management	MBAN 6110 Data Science 1	MGMT 6300 Case Analysis & Presentation Skills	MMAI 5000 AI Fundamentals	MMAI 5100 Database Fundamentals	MBAN 5110 Predictive Modelling	MMAI 5040 Business Applications of AI 1	MMAI 5400 Natural Language Processing	MMAI 5500 Applications of Neural Networks & Deep Learning in Business	MMAI 6050 AI Consulting Project	GS/PHIL 5340 Ethics and Societal Implications of AI	MBAN 5140 Visual Analytics & Modelling	MMAI 5090 Business Applications of AI 2	MMAI 5200 Algorithms for Business Analysis	MMAI 6050 AI Consulting Project
1. Analytical Skills and Enhanced Decision-Making															
1.1. Apply big data analysis tools and techniques to enhance business decision making.	I	I		I	I	I	I	D	D	R			D	D	A
1.2. Design data-science solutions for problems commonly found in business.		I	I	I	I	I	D	D	D	A			R	D	A
1.3. Manage a business analytics project through all phases of the data science lifecycle.	I	I		I	I	R	D	R	R	R			R	R	A
1.4. Apply mathematical, statistical, and machine learning foundations of AI in the context of an evidence-based business decision support process.		I					R	D	D				R	D	
1.5. Apply strategic thinking skills to managerial decision making.	R						R			A	R	R	R	R	A
1.6. Recognize the limitations of theoretical models, techniques, and empirical findings.		I	I	I		R	I	D	D				R	R	
2. Professional Communication															
2.1. Prepare and deliver an effective and engaging oral presentation for both technical and non-technical audiences.	D		D				D			R		I	R		R
2.2. Prepare an effective and engaging written report for both technical and non-technical audiences.	D		D				D	R	R	R		I	R		R
2.3. Apply strategies to work effectively in interdisciplinary teams.	R		A				I					R	R		
3. Ethics & Social Responsibility															
3.1. Identify the ethical and social responsibilities related to the collection, analysis and reporting of the data.	I		I							R	A				R
3.2. Describe, analyze, and devise solutions for ethical and social issues that arise in business analytics.	I		I							R	A				R

I= Introduced, D= Developed, R= Reinforced, A= Assessed individually for Achievement

Non-Major Modification Program Changes

1. Program: **Music**

2. Degree Designation: **BFA Specialized Honours (120 credits)**

3. Type of Modification: **Changes to degree requirements**

4. Effective Date: **FW 2023**

5. State what the changes are: **Changes include a new degree requirement of a course in ensemble performance (see course list attached) and a reduction in the In Fine Arts/Outside of Major requirements from 12 to 6 credits.**

6. Provide the rationale for the proposed changes that is rooted in the program learning outcomes.

   1) A new degree requirement of a 3.0 ensemble course is being introduced to ensure that all department of music graduates experience the unique learning found in collaborative music making, help to establish a level of performance competence, and to encourage exploration in musics beyond the student's current areas of expertise. In creating additional opportunity for discovery, it is hoped that this requirement will help diversify our curriculum and support AMPD's commitment to EDDI (see attached list of ensemble courses).

   A number of the important undergraduate degree level expectations and learning outcomes will be addressed by this change, including "Demonstrate skills required for effective performance", "Show expertise in one area of music (e.g.,

jazz, western classical, world musics), with knowledge beyond specific concentration (e.g., jazz trumpet, Baroque violin, Flamenco guitar)", and "Participate in music creation, production, education, and/or interpretation with versatility and global awareness/responsibility".

The current degree requirements allow for a student to enter the program and not receive any performance experience or training until their third year of study, when they must fulfill a degree requirement of a minimum of 12 credits in upper level studio courses. Even these upper level studio requirements do not ensure performance experience, as they may be satisfied through courses tangentially related to performance, such as conducting, pedagogy, or composition.

2) The number of General Education, FA/1900, and In AMPD/Outside of Major BFA degree requirements, along with current Department of Music core requirements and co-requisite structures, compounds this issue. While the department is committed to providing students with a broad-based arts education and substantial opportunities for interdisciplinary study, the current combination of Gen. Ed., 1900, and, In/Out requirements, when combined with departmental degree requirements, inhibits a BFA music student's ability to pursue all of their musical interests, particularly in the first years of study.

In order to complete the current BFA Music, students must take the equivalent of thirty credits outside of their home department. Our own AMPD advising directs students to complete these outside of major requirements early in their time at York. When combined with 12 credits in core courses, this additional 12 credits of courses outside-of-major allows first year students just 6 credits of optional music studies. For our first-year students with a focus in jazz this means that participation in a 3.0 Jazz Workshop (the core of their learning experience in that area) and the co-requisite 3.0 Jazz Theory course, leaves them with no room for a private lesson. For students with an interest in classical performance, a 3.0 (30-

minute) private lesson, along with the co-requisite 3.0 ensemble course, leaves them no room to have a full 6.0 (one hour) lesson or to pursue other interests such as world music performance, music production, or composition. It is felt that the opportunity for increased engagement in their home discipline can only increase student satisfaction and retention.

In fulfilling the aforementioned upper level studio requirements during their third and fourth year of study, in the current model, students may find themselves without the prerequisites needed to join a multi-level performance course at the third or fourth-year level they require to fulfil degree requirements.

Finally, the increased enrolments of approximately 150 3.0 credits in music courses will allow the department to continue to offer and update courses that provide our students with a wide variety of musical experiences.

7. Provide an updated mapping of the program requirements to the program learning outcomes to illustrate how the proposed requirements will support the achievement of program learning objectives. **See attached.**

8. If relevant, summarize the consultation undertaken with relevant academic units, including commentary on the impact of the proposed changes on other programs. Provide individual statements from the relevant program(s) confirming consultation and their support. **The proposed changes will have minimal impact on the other AMPD programs, and the proposed changes have been discussed in departmental curriculum committee and in department meetings.**

9. Describe any resource implications and how they are being addressed (e.g., through a reallocation of existing resources). If new/additional resources are required, provide a statement from

the relevant Dean(s)/Principal confirming resources will be in place to implement the changes. **The resources required by these changes currently exist. No additional resources are required.**

10. Provide a summary of how students currently enrolled in the program will be accommodated. **Current majors will continue following the current degree requirements and will not be impacted by this change.**

11. Provide as an appendix a side-by-side comparison of the existing and proposed program requirements as they will appear in the Undergraduate or Graduate Calendar. **See attached. NOTE: the proposed calendar copy now also incorporates faculty-wide degree requirements not previously made explicit in the academic calendar for Music.**

Music – Specialized Honours BFA
Side-by-side degree requirements

Current	Proposed
Honours Majors Students must complete the requirements of the Specialized Honours BA degree or the Specialized Honours BFA degree. The following foundation courses are required of all music majors: • FA/MUSI 1000 6.00; • FA/MUSI 1200 3.00; • FA/MUSI 1210 3.00; • FA/MUSI 2000 6.00; • FA/MUSI 2200 3.00; • FA/MUSI 2210 3.00. **Specialized Honours BFA Program** Students must complete at least 60 credits in music, including: • the foundation courses listed above; • 30 credits at the 3000 or 4000 level, including 12 credits in studies courses and 12 credits in studio courses; • 6 credits of Music electives. Please consult the Department of Music Courses of Instruction section for classification of studies and studio courses.	**Honours Majors** Students must complete the requirements of the Specialized Honours BA degree or the Specialized Honours BFA degree. The following foundation courses are required of all music majors: • FA/MUSI 1000 6.00; • FA/MUSI 1200 3.00; • FA/MUSI 1210 3.00; • FA/MUSI 2000 6.00; • FA/MUSI 2200 3.00; • FA/MUSI 2210 3.00. **Specialized Honours BFA Program** Students must complete at least 60 credits in music, including: • the foundation courses listed above; • 30 credits at the 3000 or 4000 level, including 12 credits in studies courses and 12 credits in studio courses; • 6 credits of Music electives. • 3 credits of ensemble. • 18 credits in general education (6 humanities, 6 social science, and 6 natural science). • 6 credits of AMPD courses outside Music. • *Note: six credits from the AMPD 1900 3.00 series of courses, outside the major, are required of all School of the Arts, Media, Performance & Design degrees. These courses may be used toward satisfying the humanities general education requirement, the in/out requirements or an AMPD elective. For students admitted to the

MUSIC
BFA (Specialized Honours) **(120 Credits)**
Degree Requirements:

Current: Proposed:

Core Courses	24 Credits	Core Courses	24 Credits
FA/MUSI 1000 *Theory and Musicianship 1*	6.0	FA/MUSI 1000 *Theory and Musicianship 1*	6.0
FA/MUSI 1200 *Music & Cultures 1*	3.0	FA/MUSI 1200 *Music & Cultures 1*	3.0
FA/MUSI 1210 *Music in Global Cultures*	3.0	FA/MUSI 1210 *Music in Global Cultures*	3.0
FA/MUSI 2000 *Theory and Musicianship 2*	6.0	FA/MUSI 2000 *Theory and Musicianship 2*	6.0
FA/MUSI 2200 *Music & Cultures 2*	3.0	FA/MUSI 2200 *Music & Cultures 2*	3.0
FA/MUSI 2210 *Jazz in Global Contexts*	3.0	FA/MUSI 2210 *Jazz in Global Contexts*	3.0

General Education Courses	18 Credits	General Education Courses	18 Credits
HUMA	6.0	HUMA	6.0
NATS	6.0	NATS	6.0
SOCS	6.0	SOCS	6.0

Current		Proposed	
In AMPD/ Outside of Major Electives	**12 Credits**	**Ensemble Course** (Selected from attached list)	**3 Credits**
Upper Level Studio Courses	**12 Credits**	**In AMPD/ Outside of Major Electives**	**6 Credits**
Upper Level Studies Courses	**12 Credits**	**Upper Level Studio Courses**	**12 Credits**
Upper Level Studies or Studio Courses	**6 Credits**	**Upper Level Studies Courses**	**12 Credits**
Free Electives	**36 Credits**	**Upper Level Studies or Studio Courses**	**6 Credits**
		Free Electives	**39 Credits**
	120 Credits		**120 Credits**

REQUIRED: six credits from the FA 1900 3.00 series of courses, outside the major, are required of all School of the Arts, Media, Performance and Design (AMPD) degrees. These courses may be used toward satisfying the humanities general education requirement, the in/out requirements or a free elective. For students admitted to the School of the Arts, Media, Performance and Design with a minimum of 54 transfer credits, the six credits from the FA 1900 3.00 series of courses outside the major are optional.

MUSI Ensemble Courses

MUSI X043   West African Drum Ensemble: Ghanaian
MUSI X044   Celtic Canadian Folk Ensemble
MUSI X045   Klezmer Ensemble
MUSI X047   Chinese Classical Ensemble
MUSI X048   Japanese Music
MUSI X049   Cuban Music
MUSI X091   World Music Chorus
MUSI X093   Balkan Music Ensemble
MUSI X094   Escola de Samba
MUSI X095   Caribbean Ensemble
MUSI X096   Korean Drum Ensemble
MUSI X097   West African Drum Ensemble: Mande

MUSI X024   York University Concert Choir
MUSI X025   York University Wind Symphony
MUSI X026   Orchestra
MUSI X028A   York University Baroque Ensemble
MUSI X028B   York Brass Ensemble
MUSI X028G   York Classical Guitar Ensemble
MUSI X028M   Male Vocal Ensemble
MUSI X028N   New Music Ensemble
MUSI X028P   York Percussion Ensemble
MUSI X028S   York Chamber Strings
MUSI X028V   Chamber Choir
MUSI X028W   York Woodwind Ensemble

MUSI X051   Jazz Workshop
MUSI X051A   Jazz Workshop: New Directions
MUSI X052   Jazz Orchestra
MUSI X053   Jazz Choir
MUSI X556   Gospel Choir
MUSI X557   Gospel Ensemble: Instrumental
MUSI X058   York Rhythm and Blues Ensemble
MUSI X061   Jazz Repertoire Ensemble/Saxophone

MUSI X071   Interactive Sonic Arts

Non-Major Modification Program Changes

1. Program: Psychology

2. Degree Designation: BA, BSc, BA Hons, BSc Hons, Specialized Honours BA, Specialized Honours BSc, Honours Minor BA and Honours Minor BSc.

3. Type of Modification: Removal of minimum grade requirement of 'C' in 'Introduction to Psychology' PSYC 1010 6.0 (Example: changes to degree / admission requirements)

4. Effective Date: Fall 2023

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5. Change to the calendar description regarding removal of minimum grade requirement of "C" for PSYC 1010 6.0 and change to the brief description of PSYC 1010, to reflect the removal of the requirement a C in this course. (Example: increase/ decrease to the number of major credits)

6. Provide the rationale for the proposed changes that is rooted in the program learning outcomes.

    We are proposing to remove the minimum grade of 'C' such that students who obtain a D or D+ in Introduction to Psychology will not be prohibited from taking additional courses and progressing in their psychology degrees. We believe students who pass PSYC 1010 will still have met at least to a minimum degree, the PLOs of 'Define psychology and explain how it meets the criteria of science' and 'Recognize key concepts, methods, theories, and assumptions of psychology' as well as 'Describe the basic characteristics of the scientific method in psychology' and 'Discern the difference between personal views and scientific evidence'.

    The primary rationale for this change is that we believe it unnecessarily disadvantages students who may already be disadvantaged. Not only are these students prevented from proceeding with obtaining their degree requirements, but they are left to retake the course often multiple times in order to progress. This adds undue financial burden to students in this position in our view. Moreover, during COVID, we waived the minimum C requirement and were able to conduct comparative analyses between student performance in PSYC 1010 and later performance on 2nd year required courses: Introduction to Research Methods, Introduction to Statistics, and Writing in Psychology. Results comparing performance between students who obtained a D/D+ in PSYC 1010 and students who obtained a C/C+ were not substantially different. Moreover, it was noted that many of the students who obtained a D/D+ in PSYC 1010 went on to perform *appreciably better* in their 2nd year courses. Lastly, we have a number of student support and success programs in place through Calumet College (e.g., PASS; Peer Tutoring) and Learning Commons that were not in place when the minimum C requirement was instituted several decades ago.

7. Provide an updated mapping of the program requirements to the program learning outcomes to illustrate how the proposed requirements will support the achievement of program learning objectives.

    By not holding back students who pass PSYC 1010, they will be able to continue pursuing

the aforementioned PLOs as these become elaborated upon in 2nd year required courses and electives. Due to the temporary lifting of the C requirement, we have evidence to suggest that students with a grade of D/D+ overall do equivalent or better on their 2nd year foundational courses. The removal of the C requirement will not impact the way the course is mapped to other courses or to the program learning outcomes.

8. If relevant, summarize the consultation undertaken with relevant academic units, including commentary on the impact of the proposed changes on other programs. Provide individual statements from the relevant program(s) confirming consultation and their support.

This change was implemented in consultation with PSYC 1010 instructors and after inquiring of more senior faculty and past administrators of the 'C Rule's origins (including original rationale for its implementation) – which were hard to discern. The pros and cons of retaining and removing the 'C Rule' were examined in great depth by the Psychology Undergraduate Studies Committee who, after several discussions, approved the change to remove the restriction at the March 2022 USC meeting. This recommendation was then presented to the Psychology Department Executive Committee and approved, followed by a fulsome discussion at the March Department Meeting. Currently, the C requirement also applies to all students either inside or outside the academic units. The change will also apply to all students who wish to take PSYC 1010 6.0 either inside or outside the academic units.

9. Describe any resource implications and how they are being addressed (e.g., through a reallocation of existing resources). If new/additional resources are required, provide a statement from the relevant Dean(s)/Principal confirming resources will be in place to implement the changes.

As students obtaining D/D+ in PSYC 1010 are not significant in number (~100 per year), we do not anticipate this change having any significant impact on resources. On a positive note, it may open seats in Year I offerings of PSYC 1010 because fewer students will need to retake the course.

10. Provide a summary of how students currently enrolled in the program will be accommodated.

Given we have been lifting the restriction on D/D+ PSYC 1010 students from enrolling in 2nd and 3rd year courses since the start of the COVID Pandemic, we will simply carry forward as we have been doing with no impact on the most recent cohort of PSYC 1010 students, and thus no need for accommodation. Once the change is approved, the registration system should be updated to reflect the change for students who have the D and D+ to enrol in upper level courses.

11. Provide as an appendix a side-by-side comparison of the existing and proposed program requirements as they will appear in the Undergraduate or Graduate Calendar.

The proposed change will be implemented for each of our Degree Programs (BA, BSc, BA Hons, BSc Hons, Specialized Honours BA, Specialized Honours BSc) in the Undergraduate Calendar and all associated Syllabus Templates:

CURRENT: "..must have completed HH/PSYC 1010 6.0 (with a minimum grade of C)'

PROPOSED CHANGE: "..must have completed HH/PSYC 1010 6.0"

May11, 2017

The Senate of York University – Minutes

Meeting: Thursday, 15 December 2022, 3:00 pm
Via videoconference

M. Roy (Chair)	S. Gajic-Bruyea	A. MacLennan	C. Steele
P. Puri (Vice-Chair)	L. Gilbert	A. Macpherson	K. Tasa
P. Robichaud (Secretary)	M. Guidice	J. Magee	A. Taves
O. Alexandrakis	J. Goodyer	C. Mallette	S. Tchang
J. Allen	C. Graham	L. Martin	T. Theophanidis
R. Allison	J. Grant	D. Matten	P. Tsasis
A. Amirfazil	R. Green	A. Mbalaja	R. Tsushima
L. Appel	D. Gruspier	C. McAulay	W. van Wijngaarden
G. Audette	M. Guzman	A. McKenzie	G. Vanstone
S. Bay Cheng	M. Hamadeh	J.J McMurty	A. Viens
A. Belcastro	A. Hilliker	R. Metcalfe	R. Wang
M. Biehl	W. Ho	K. Michasiw	S. Watson
G. Binsted	R. Hornsey	C. Mihaly	P. Wood Burke
M. Budworth	A. Hovorka	M. Moir	N. Zamisa
M. Bunch	B. Hu	M. Morrow	G. Zhu
D. Cabianca	P. Kohler	K. Murray	
N. Cado	I. Kapoor	S. Murtha	
C. Chapman	M. Karakul	R. Ophir	
N. Chidemo	S. Karimi	A. Ouedraogo	
E. Clements	A. Kimakova	D. Palermo	
J. Conder	J. Kirchner	V. Pavri	
M. Condon	T. Knight	L. Philipps	
S. Cote-Meek	C. Lamaison	P. Phillips	
S. Day	M-H Larochelle	C. Popovic	
M Ebrahimi	J. Lazenby	A. Pyée	
S. Embleton	R. Lee	T. Remmel	
J. Etcheverry	N. Lemish	N. Robinson	
O. Eyawo	R. Lenton	V. Saridakis	
D. Fernandez	T. Loebel	D. Scott	
M. Fiola	P. Lynch	P. Singh	

1. Chair's Remarks

The Chair welcomed Senators to the meeting.

On behalf of Senate, the Chair thanked members of the University Secretariat for their knowledge and support to Senate and welcomed new members to the Secretariat.

Congratulations were expressed to the Senate Vice-Chair, Poonam Puri, recipient of the *Peter Dey Governance Achievement Award* from *The Governance Professionals of*

Canada, and to Senator Sheila Embleton on her appointment as Interim President at Laurentian University.

2. Business Arising from the Minutes

There was no business arising from the minutes of the meeting of 24 November 2022.

3. Inquiries and Communications

There were no inquiries or communications.

4. President's Items

President Lenton extended congratulations to Senator Sheila Embleton on her appointment as Interim President of Laurentian University.

The Vice-President Equity, People and Culture (VPEPC), Sheila Cote-Meek, spoke to the draft Decolonization, Equity, Diversity and Inclusion (DEDI) strategy as circulated with the agenda.

Highlighted were the following points:

- a forthcoming toolkit to support the implementation of the strategy.

- the broad community consultation that was done, and the input from which that is reflected in the strategy

- intended to be a living document, presentations and workshops on the strategy will be provided to support the implementation of its actions, along with the development of an implementation plan.

- the development of a course to assist efforts on decolonizing curriculum to be offered through the Teaching Commons.

Further feedback from Senators is welcome through submission to the VPEPC office.

The President and the Dean of the Faculty of Graduate Studies committed to meet with the Graduate Student Association to discuss opportunities for the latter's participation in DEDI at the Faculty level.

The monthly "Kudos" report on the achievements of members of the York community was *noted,* from which the following were highlighted:

- Professor Puri's receipt of the *Peter Dey Governance Achievement Award* from The Governance Professionals of Canada

- Dr. Allan Carswell being named Philanthropist of the Year by the Association of Fundraising Professionals

- *Raise the Black Bar* (RTBB), a groundbreaking initiative involving Osgoode Hall Law School, the Osgoode chapter of the Black Law Students' Association and the Toronto District School Board (TDSB).

Committee Reports

5. **Executive Committee**

   a. Election of Vice-Chair of Senate

   As set out in the written report circulated with the agenda, the Vice-Chair noted that Professor Lauren Sergio is nominated for Vice-Chair of Senate and that no further nominations had been received. It was moved, seconded (Senator Green) and *carried* **"that nominations be closed"** for the election of Vice-Chair of Senate.

   Senators were invited to nominate colleagues for the Tenure and Promotion Committee and the Sub-Committee on Quality Assurance.

   The Vice-Chair spoke to the Executive Committee's information items in the report circulated with the agenda.

6. **Academic Policy, Planning and Research Committee (APPRC)**

   a. Charter of Organized Research Units

   It was moved, seconded and *carried* that **Senate approve the chartering of the Centre for Research on Earth and Space Science for a five-year period effective 1 July 2023 – 30 June 2028.**

7. **Academic Standards, Curriculum and Pedagogy Committee**

   a. Statutory Motion: Establishment of the degree of Master of Business Administration in Technology Leadership, Schulich School of Business.

   ASCP provided notice of its intent to recommend the establishment of the degree of Master of Business Administration in Technology Leadership.

   b. Establishment of the Master of Health Industry Administration degree, Schulich School of Business

   It was moved, seconded, and *carried* that **Senate approve the establishment of the Master of Health Industry Administration degree, Schulich School of Business, effective FW 2023-2024**.

c. Establishment of the Master of Health Industry Administration degree program, Schulich School of Business.

It was moved, seconded, and *carried* that **Senate approve the establishment of the Master of Health Industry Administration degree program, Schulich School of Business, effective FW 2023-2024**.

d. Establishment of the Graduate Diploma in Accounting Analytics, Schulich School of Business

It was moved, seconded, and *carried* that **Senate approve the establishment of the Graduate Diploma in Accounting Analytics, Schulich School of Business, effective FW 2023-2024**.

8. Tenure and Promotions

Chair Kapoor spoke to the 2021-2022 annual report on tenure and promotions circulated with the agenda. The Chair committed in subsequent annual reports to provide within the comparative data, decisions from the past five-years for improved context with which to view the outcomes of application decisions.

9. Other Business

The Chair received remarks from Senators giving thanks for his service and commitment to collegial governance.

There being no other business, it was moved, seconded and *carried* **"that Senate adjourn."**

Consent Agenda Items

10. Minutes of the Meeting of 24 November 2022

The Minutes of the meeting of 24 November 2022 were *approved by consent*.

Mario Roy, Chair _____

Pascal Robichaud, Secretary _____