BOARD OF GOVERNORS' 122nd REGULAR MEETING

AGENDA

Thursday, March 10, 2022
1:00 p.m. to 4:35 p.m.
Videoconference

No.		Topic	Lead	Allocated Time	Suggested Start Time
		PUBLIC SESSION			
1		**Call to Order**	Chair		
2		**Agenda (M)**	Chair		
3		**Conflict of Interest Declaration**	Chair		
4		**Chair's Remarks**	Chair	5	1:05 p.m.
5		**Board of Governors Awards Recipients**	Abigail Chaddah Romeo Mendez	10	1:10 p.m.
6		**Academic Council**	Laura Elliott	15	1:20 p.m.
	6.1	Age with Dignity Campus of Care Research Centre Proposal* (M)			
	6.2	New Program Proposals: (a) Faculty of Social Science and Humanities: New Diploma in Public Policy Proposal* (M) (b) Faculty of Energy Systems and Nuclear Science & Faculty of Engineering and Applied Science: New Bachelor of Engineering and Bachelor of Engineering and Management in Energy Engineering* (M) (c) Faculty of Engineering and Applied Science: New Bachelor of Engineering and Bachelor of Engineering and Management in Industrial Engineering* (M)			
7		**President's Report**	Steven Murphy	5	1:35 p.m.
	7.1	Strategic Discussion: Coming Together After a Strike	Steven Murphy & Lori Livingston	25	1:40 p.m.

D – Discussion M – Motion P – Presentation U – Update * Documents attached

No.		Topic	Lead	Allocated Time	Suggested Start Time
		Committee Reports			
8		**Audit & Finance Committee (A&F) Report**	Laura Elliott	5	2:05 p.m.
		Finance			
	8.1	Third Quarter Financial Reports* (U)	Laura Elliott	10	2:10 p.m.
	8.2	2022-2023 Tuition & Ancillary Fees* (M)	Laura Elliott	10	2:20 p.m.
9		**Governance Nominations & Human Resources Committee (GNHR) Report**	Maria Saros	5	2:30 p.m.
	9.1	Draft Board EDI Statement* (M)	Maria Saros	10	2:35 p.m.
10		**Strategy & Planning Committee (S&P) Report**	Lynne Zucker	5	2:45 p.m.
	10.1	Project Updates – Questions Only (U)	Lynne Zucker	5	2:50 p.m.
11		**Consent Agenda: (M)**	Chair	5	2:55 p.m.
	11.1	Minutes of Public Session of Board Meetings of December 9, 2021*			
	11.2	Minutes of Public Session of A&F Meeting of November 24, 2021*			
	11.3	Minutes of Public Session of GNHR Meeting of October 21, 2021*			
	11.4	Minutes of Public Session of S&P Meeting of October 7, 2021*			
	11.5	Amendments to Statement of Investment Policies*			
	11.6	Academic Council's Updated Steering Committee Terms of Reference*			
12		**Information Items:**			
		A&F			
	12.1	Credit Rating Update*			
	12.2	MCU Audit Update*			
		S&P			
	12.3	ACE Enhancement Project*			
	12.4	AVIN Project*			
		GNHR			
	12.5	Pension Governance Review Findings Report*			
13		**Other Business**	Chair		
14		**Adjournment (M)**	Chair		3:00 p.m.

D – Discussion M – Motion P – Presentation U – Update * Documents attached

		BREAK		**15**	
No.		**Topic**	**Lead**	**Allocated Time**	**Suggested Start Time**
		NON-PUBLIC SESSION (material not publicly available)			**3:15 p.m.**
15		**Call to Order**	Chair		
16		**Conflict of Interest Declaration**	Chair		
17		**Chair's Remarks**		10	3:15 p.m.
	17.1	Durham College Engagement* (D)	Chair & Steven Murphy		
18		**President's Report**	Steven Murphy	10	3:25 p.m.
	18.1	Interim Dean of the School of Graduate and Post-Doctoral Studies* (M)			
		Committee Reports (confidential items only)			
19		**A&F Report**	Laura Elliott	15	3:35 p.m.
	19.1	Auditor Performance Review Follow-Up* (M)			
20		**GNHR Report**	Maria Saros	10	3:50 p.m.
	20.1	Board Recruitment and Leadership Succession Update			
21		**S&P Report**	Lynne Zucker	5	4:00 p.m.
	21.1	Strategic Space Planning* (U)	Brad MacIsaac	10	4:05 p.m.
22		**Consent Agenda (M):**	Chair	5	4:15 p.m.
	22.1	Minutes of Non-Public Session of Board Meeting of December 9, 2021* (M)			
	22.2	Minutes of Non-Public Session of A&F Meeting of November 24, 2021*			
	22.3	Minutes of Non-Public Session of GNHR Meetings of October 21, 2021*			
	22.4	Minutes of Non-Public Session of S&P Meeting of October 7, 2021*			
23		**For Information:**			
	23.1	Advancement Update*			
24		**Other Business**	Chair		
25		***In Camera* Session**	Chair	15	4:20 p.m.
	25.1	USGC Planning (D) *All staff to leave*			
26		**Termination (M)**	Chair		4:35 p.m.

Becky Dinwoodie, Secretary

D – Discussion M – Motion P – Presentation U – Update * Documents attached

Consent Agenda: *To allow the Board to complete a number of matters quickly and devote more of its attention to major items of business, the Agenda has been divided between items that are to be presented individually for discussion and/or information and those that are approved and/or received by consent. A Consent Agenda is not intended to prevent discussion of any matter by the Board, but items listed under the consent sections will not be discussed at the meeting unless a Governor so requests. Governors are supplied with the appropriate documentation for each item, and all items on the Consent Agenda will be approved by means of one omnibus motion.*

BOARD REPORT

SESSION:		**ACTION REQUESTED:**	
Public	☒	**Decision**	☒
		Discussion/Direction	☐
		Information	☐
Financial Impact	☐ **Yes** ☒ **No**	**Included in Budget**	☐ **Yes** ☒ **No**
TO:	**Board of Governors**		
DATE:	**March 10, 2022**		
FROM:	**Academic Council**		
SUBJECT:	**Creation of the Age With Dignity Campus of Care and Best Practices Research Centre**		

MANDATE:

In accordance with Article 1.4(b) of By-law No. 2 and the Procedures for the Creation of Research Entities, Academic Council makes recommendations to the Board on matters including the establishment of research centres.

Recommendation: The Research Committee, at its January 18, 2022 meeting, reviewed the proposal by Dr. Manon Lemonde from the Faculty of Health Sciences to establish the Age With Dignity Campus of Care and Best Practices Research Centre and unanimously approved the motion of a recommendation that it go forward to Academic Council.

Academic Council is recommending that the Board of Governors approve the establishment of the Age With Dignity Research Centre.

BACKGROUND/CONTEXT & RATIONALE:

We are living in unprecedented times, with a global trend showing growth in both the number and the proportion of older people in the population. It is estimated that by 2030, 1 in 6 people in the world will be aged 60 years or over. By 2050, the world's population of people aged 60 years and older will reach 2.1 billion (https://www.who.int/news-room/fact-sheets/detail/ageing-and-health). In Canada, the senior population has been steadily increasing and there is no evidence that it will be slowing down - it is predicted that over the next 20 years the population of people 65 and older will grow by 68% (Seniors Population Outlook, 2017). This population has highly diverse and special needs that warrant *careful research with an eye to policy-oriented, evidence-based decision making.*

In parallel with this growth in the ageing population, *ageism* (i.e., prejudice or discrimination against a particular age-group and especially the elderly) has been documented as a pervasive phenomenon. A recent World Health Organization (WHO) report, released in March 2021, indicated that one in two people in the world is believed to hold ageist attitudes (https://www.who.int/news/item/18-03-2021-ageism-is-a-global-challenge-un), with significant negative effects on older people's physical and mental health, quality of life and overall well-being. These effects are not only impacting older people but the entire society with consequences of costs in billions of dollars every year. The solution proposed in the WHO 2021 report is to use *evidence-based strategies, improve data collection and research* and combine an action-based interdisciplinary research and policies to build a movement to change how we think, feel and act towards age and ageing. This again highlights the necessity of research towards age and ageing to support change.

Furthermore, the Covid-19 pandemic has revealed and exacerbated the effects of ageism by creating an immense amount of scrutiny and critical engagement by the media, government, and the public with Canada's Age with Dignity and Long-Term Care system (National Institute on Ageing (NIA), 2021). A 2021 report from the NIA, "Pandemic Perspectives on Long-Term Care: Insights from Canadians in Light of COVID-19" indicated that almost all respondents aged 65 years and older report that they will do everything they can to avoid moving into a long-term care home. In contrast, "ageing in place", defined as "remaining living in the community, with some level of independence, rather than in residential care" (Davey, Nana, de Joux, & Arcus, 2004, p. 133), is a popular term in current ageing policy. Ageing in place is a complex issue that needs to account for a variety of factors: housing options, transportation, recreational opportunities, and amenities that facilitate physical activity, social interaction, cultural engagement, and ongoing education (Wahl & Weisman, 2003). Although most discussions on ageing in place focus on home, there is growing recognition, for example, in environmental gerontology (Oswald, Jopp, Rott, & Wahl, 2010), that beyond the home, neighborhoods and communities play a key role in healthy ageing. This is an important gap in the current research on ageing in place which focuses almost exclusively on the home, with little being known about how the community and the other related factors that come into play and support ageing in place. Consistent with this, a recent call for proposals released in November 2021 by the Government of Canada, New Horizons for Seniors Program – Community Based Projects, seeks to fund research on ageing in place. Additionally, in long term care homes, the government noted a need for more research, in particular implementation research on infection prevention and control measures and development of new national standards in long term care. The other aspects to consider and worthwhile to add is adding lifelong learning and community engagement. Ageing with dignity is also about seeing the potential of seniors and that includes getting them into courses and learning, teaching and mentoring riles with younger students, as the centre would turn research to practice in this area especially.

Overall, these ageing trends indicate a strong need for more research to support ageing, no matter where it happens. Additionally, there is a need for research that establishes the importance of respect, autonomy and support for seniors in order for them to age with dignity. Importantly, it was emphasized that the research on ageing with dignity must move beyond basic ethical issues and take an interdisciplinary approach to topics such as healthy ageing, patient input, age-friendly environments, cognitive stimulation, and the role of family/caregiver support and advocacy (Person Centered Care, 2017).

OUR SOLUTION. The patterns and challenges noted above call for urgent action that is informed by research evidence. These challenges are highly complex and thus the potential solution requires:

- Ageing interdisciplinary research
    - input from multiple disciplines (health, social sciences and humanities, engineering, business and IT);
    - analyses across various units of analysis (individual, group, systems of care, community, society, etc.);
    - combination of different types of research (applied, basic), methods (quantitative, qualitative) and research designs (longitudinal designs, participatory research, integrated knowledge translation, person-centered research approaches).
- Social and Technological solutions
    - a focus on technology and social innovation to support healthy ageing.
- Policy and evidence-informed practice
    - a focus on implementation science, to be able to implement effectively the interventions developed to support ageing;
    - advocacy work to build awareness and educate about various ageing issues.
- Community-driven research and innovation
    - strong partnerships with communities, both to inform research and to effectively mobilize the emerging research evidence.

We will respond to these urgent needs by capitalizing on and connecting the broad research expertise on ageing at Ontario Tech University. Initial discussions and consultation with the research community have commenced with the ultimate goal of creating an Ontario Tech University Age With Dignity Campus of Care and Best Practices Research Centre (referred to as the Age With Dignity Research Centre for the remainder of this document). The Age With Dignity Research Centre will provide a strategic opportunity for Ontario Tech to position itself as a national leader in research, evidenced-based policy, and best practices to reduce ageism and lead to healthy ageing at home, in community or long-term care facilities.

The proposed Age With Dignity Research Centre will bring together expertise from a wide range of disciplines, spanning health, social sciences and humanities, education, and natural sciences and engineering, to build a strong evidence base to inform ageing research and best practices. The name of the Centre reflects its intended outcomes, namely ageing with dignity and community of care. Our approach to researching ageing with dignity will center around healthy ageing, the concept of optimizing opportunities to maintain and improve wellness from a holistic perspective which includes mental, physical, emotional, cognitive, social and spiritual,
independence, and quality of life throughout one's lifespan. Creating healthy ageing programs leads to the following benefits: improved health, mobility, social connectivity, financial security, personal dignity, safety, security, and additional life skills and knowledge. Importantly, evidence supports the notion that implementing these types of programs drastically increases the quality of life for seniors and increases the chances of them living a more independent life (Sinha, 2012). In addition, our focus on a community

of care recognizes the importance of neighborhoods and communities in supporting healthy ageing.

POSITIONING OUR CENTRE. The proposed Age With Dignity Research Centre is unique in its focus on conducting interdisciplinary research, development of innovative technological solutions and implementation science, to foster healthier lives.

Globally, our Centre is aligned with and will contribute to the initiative “Decade of Healthy Ageing (2021–2030)”, developed by the United Nations General Assembly and led by WHO. Recognizing the complexities related to ageing and bringing in change at various levels, the Decade of Healthy Ageing is a global collaboration bringing together governments, civil society, international agencies, professionals, academia, the media and the private sector for 10 years of concerted, catalytic and collaborative action to improve the lives of older people, their families and communities.

Locally, our proposed Age With Dignity Research Centre is unique. Although there are other research centres/institutes on ageing, *our strength and relative advantage is in deliberately designing and conducting interdisciplinary research on ageing; developing technological solutions; exploring the role of technology in seniors’ lives as both a risk and protective factor*
and using evidence from implementation science, to maximize our research impact. Below we include more details about what will set us apart from others:

Interdisciplinary Research on Ageing. Researching and supporting ageing spans changes in adults as they age, the ways that society changes with an ageing population, and the ways we apply this information to developing programs and policies for older adults. The magnitude and complexity of these issues requires an interdisciplinary approach to examine the emerging research questions. For instance, research on the physical design of the homes and other spaces for older people is needed to make these places age friendly. According to research, the design should look different based on the community you are in, resident demographics, and whether the facility has a certain specialty. When designing these facilities, the process of ageing must also be kept in mind; this includes reduced vision in low light, reduced field of vision, reduced hearing, loss of muscle strength, reduced reflexes, reduced memory, and visual perception changes. It has been proven that creating a facility that has a friendly and home-like atmosphere increases resident satisfaction. Conversely, too much noise can be a problem – such as in a large dining room or in hallways. (Hsieh, 2012). This work requires expertise from health and social sciences to examine individual changes and preferences related to ageing; community research to inform changes; engineering expertise to develop technological solutions that meet the individual and community needs, as well as advocacy and decision making that are informed by research evidence. To this end, our team of researchers from six faculties brings together the right expertise to address seniors’ needs related to health, mental health, community engagement, and optimal design of physical spaces, among others.

Development of Innovative Technological and Social Solutions. Recently there has been a great emphasis on the need for, and development of, technological solutions to assist older adults to live well in place or in the community. For instance, in November 2021, the

NRC's *Aging in Place Challenge* program and CIHR *Institute of Aging* joint funding call was released, seeking proposals for the technological solutions to support various ageing needs. This is one of the many calls and priorities for funding focused on technology to support health ageing. This is well aligned with the strong expertise at our university that translated in the development of video games, gamified platforms, the use of virtual and augmented reality and 3D printing to support education and treatment of older people, their families, and health care providers. This focus is also aligned with Ontario Tech's "tech with a conscience" philosophy, which values and promotes the development of ethical and meaningful technological solutions.

Implementation Science. Implementation science, defined by the National Institutes of Health as the scientific study of strategies to adopt and integrate evidence-based health innovations into routine practice, continues to grow within research, education, and practice-based settings (Bauer et al., 2015). The imperative to attend to the implementation process has emerged over the last two decades in the face of growing recognition that effective practices and treatments/innovations do not passively make their way into routine practice. Implementation requires distinct expertise and capacity. (Brehaut & Eva, 2012) Regardless of how effective an innovation is, not paying attention to its implementation in practice, often leads to suboptimal outcomes and wasteful research. For this reason, implementation science has become a global undertaking. For instance, in United States, most research that has practical/applied impact is required to be informed by implementation science evidence. Similarly, in Canada, several recent calls for research proposals have included requirements to use an implementation science lens/methodology (e.g., Implementation Science Teams – Strengthening Pandemic Preparedness in Long-Term Care Funding Opportunity from CIHR; https://cihr-irsc.gc.ca/e/52118.html). Our Centre's focus on implementation science is timely and consistent with the direction of the geriatric research. For instance, in 2021, the journal The Gerontologist released a call for papers for the Special Issue: Implementation Science in Gerontology. To this end, our faculty bring expertise in implementation science and strong community partners, enabling not only the development of research evidence but also the effective implementation of this evidence in practice.

In summary, the proposed Age With Dignity Research Centre is timely and the result of the intersection between pressing, unprecedented, and complex ageing needs, on the one side, and our University's research expertise and unique strengths on the other side. For this reason, we believe that the proposed Centre has the potential to make significant contributions to the science of ageing as well as inform policies, decision-making, and best practices.

RESOURCES REQUIRED:
Physical Requirements

No new resources or equipment will be required from Ontario Tech University. Faculty members who join the Age With Dignity Research Centre will utilize their existing research spaces.

Staffing Requirements

At this point in time, there are no new staff requirements. Project manager, graduate and undergraduate students, associate and senior scientist will join Age With Dignity Research Centre activities as appropriate, in tandem with securing research funding.

Budget and Financial Requirements

No start-up funding is requested.

We have prepared a five-year draft budget for the next five years of the Age With Dignity Research Centre (See attached budget).

Each faculty member is responsible for, and committed to, applying and securing funding for their respective research area, independently or in collaboration. As mentioned in the proposal, the members will be developing a strategic plan and exploring funding opportunities with the funding agencies, their partners and collaborators. Short term, our sustainability approach will capitalize on using in-kind contributions (from various offices on campus) and professional development funds to create a presence on campus, regionally and provincially. At the same time, we will pursue other lines of funding from internal and external grants and the development of courses /microcredentials. We believe that this approach will increase the feasibility and sustainability of the proposed Age With Dignity Research Centre.

IMPLICATIONS/ ALTERNATIVES CONSIDERED:

Not creating the Age With Dignity Centre: This would be a missed opportunity for Ontario Tech University to increase in local, national and international visibility and credibility in this area. Moreover, it would also result in a missed opportunity for the university to obtain significant research funding in this field.

ALIGNMENT WITH MISSION, VISION, VALUES & STRATEGIC PLAN:

The proposed work conducted at the Age With Dignity Research Centre aligns perfectly with Ontario Tech University's strategic research priority (Strategic Research Plan 2020-25): "Healthy populations, community well-being and social justice". The university is committed to creating sustainable and healthy communities by facilitating innovative research that enhances the capacities of local, national and global communities to thrive and grow in ways that are healthy and sustainable.

As such, the Age With Dignity Research Centre will support ongoing collaborations and promote new partnerships between local, national, and international knowledge users and faculty members engaged in the fields of healthy ageing, community and public health, social sciences, and mental health.

The Age With Dignity Research Centre supports Ontario Tech's Strategic Research Plan as follows:

- will play a lead role in strengthening the Faculty of Health Science's, and the overall university's, research capacity in the area of ageing using innovative, interdisciplinary approaches.
- will provide new training opportunities for students. Experiential learning has been a foundational principle of Ontario Tech University since its inception. In particular, faculty members have focused on student engagement in research at both the undergraduate and graduate levels. The proposed research programs will provide excellent training for HQP to pursue graduate-level programs at Ontario Tech University. The work conducted in the Age With Dignity Research Centre will be an excellent forum to expose undergraduate and graduate students to interdisciplinary research as they will participate in research teams with individuals from diverse fields/areas of study and practice.

CONSULTATION:

- *Office of Research Services*: Consultation from April 14, 2021 to September 22, 2021;
- *Research Committee*: Motion passed January 18, 2022
- *Faculty of Health Sciences information/discussion session*: January 19, 2022.
- *Academic Council*: presented for recommendation on January 25, 2022.

MOTION for CONSIDERATION:

That pursuant to the recommendation of Academic Council, the Board of Governors hereby approves the establishment of the Age with Dignity Campus of Care and Best Practices Research Centre, as presented.

SUPPORTING REFERENCE MATERIALS:

- Proposal for the establishment of the Age With Dignity Campus of Care and Best Practices Research Centre

Proposal for the Creation of the

Age With Dignity Campus of Care and Best Practices Research Centre

1. Name of the Entity

Age With Dignity Campus of Care and Best Practices Research Centre

2. Proposers

Director:
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3. Background Description and Justification

3.1 CURRENT CONTEXT AND NEEDS. We are living in unprecedented times, with a global trend showing growth in both the number and the proportion of older people in the population. It is estimated that by 2030, 1 in 6 people in the world will be aged 60 years or over. By 2050, the world's population of people aged 60 years and older will reach 2.1 billion (https://www.who.int/news-room/fact-sheets/detail/aging-and-health). In Canada, the senior population has been steadily increasing and there is no evidence that it will be slowing down - it is predicted that over the next 20 years the population of people 65 and older will grow by 68% (Seniors Population Outlook, 2017). This population has highly diverse and special needs that warrant *careful research with an eye to policy-oriented, evidence-based decision making.*

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in long term care. The other aspects to consider and worthwhile to add is adding life long learning and community engagement. Ageing with dignity is also about seeing the potential of seniors and that includes getting them into courses and learning, teaching and mentoring riles with younger students, as the center would turn research to practice in this area especially.

Overall, these ageing trends indicate a strong need for more research to support ageing, no matter where it happens. Additionally, there is a need for research that establishes the importance of respect, autonomy and support for seniors in order for them to age with dignity. Importantly, it was emphasized that the research on ageing with dignity must move beyond basic ethical issues and take an interdisciplinary approach to topics such as healthy ageing, patient input, age-friendly environments, cognitive stimulation, and the role of family/caregiver support and advocacy (Person Centered Care, 2017).

OUR SOLUTION. The patterns and challenges noted above call for urgent action that is informed by research evidence. These challenges are highly complex and thus the potential solution requires:

- Ageing interdisciplinary research
    - input from multiple disciplines (health, social sciences and humanities, engineering, business and IT);
    - analyses across various units of analysis (individual, group, systems of care, community, society, etc.);
    - combination of different types of research (applied, basic), methods (quantitative, qualitative) and research designs (longitudinal designs, participatory research, integrated knowledge translation, person-centered research approaches).
- Social and Technological solutions
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    - strong partnerships with communities, both to inform research and to effectively mobilize the emerging research evidence.

We will respond to these urgent needs by capitalizing on and connecting the broad research expertise on ageing at Ontario Tech University. Initial discussions and consultation with the research community have commenced with the ultimate goal of creating an Ontario Tech University Age With Dignity Campus of Care and Best Practices Research Centre (referred to as the Age With Dignity Research Centre for the remainder of this document). The Age With Dignity Research Centre will provide a strategic opportunity for Ontario Tech to position itself as a national leader in research, evidenced-based policy, and best practices to reduce ageism and lead to healthy ageing at home, in community or long-term care facilities.

The proposed Age With Dignity Research Centre will bring together expertise from a wide range of disciplines, spanning health, social sciences and humanities, education, and natural sciences and engineering, to build a strong evidence base to inform ageing research and best practices.

The name of the Centre reflects its intended outcomes, namely ageing with dignity and community of care. Our approach to researching ageing with dignity will center around healthy ageing, the concept of optimizing opportunities to maintain and improve wellness from a holistic perspective which includes mental, physical, emotional, cognitive, social and spiritual, independence, and quality of life throughout one's lifespan. Creating healthy ageing programs leads to the following benefits: improved health, mobility, social connectivity, financial security, personal dignity, safety, security, and additional life skills and knowledge. Importantly, evidence supports the notion that implementing these types of programs drastically increases the quality of life for seniors and increases the chances of them living a more independent life (Sinha, 2012). In addition, our focus on a community of care recognizes the importance of neighborhoods and communities in supporting healthy ageing.

POSITIONING OUR CENTRE. The proposed Age With Dignity Research Centre is unique in its focus on conducting interdisciplinary research, development of innovative technological solutions and implementation science, to foster healthier lives.

Globally, our Centre is aligned with and will contribute to the initiative "Decade of Healthy Ageing (2021–2030)", developed by the United Nations General Assembly and led by WHO. Recognizing the complexities related to ageing and bringing in change at various levels, the Decade of Healthy Ageing is a global collaboration bringing together governments, civil society, international agencies, professionals, academia, the media and the private sector for 10 years of concerted, catalytic and collaborative action to improve the lives of older people, their families and communities.

Locally, our proposed Age With Dignity Research Centre is unique. Although there are other research centres/institutes on ageing, *our strength and relative advantage is in deliberately designing and conducting interdisciplinary research on ageing; developing technological solutions; exploring the role of technology in seniors' lives as both a risk and protective factor and using evidence from implementation science, to maximize our research impact. Below we include more details about what will set us apart from others:*

Interdisciplinary Research on Ageing. Researching and supporting ageing spans changes in adults as they age, the ways that society changes with an ageing population, and the ways we apply this information to developing programs and policies for older adults. The magnitude and complexity of these issues requires an interdisciplinary approach to examine the emerging research questions. For instance, research on the physical design of the homes and other spaces for older people is needed to make these places age friendly. According to research, the design should look different based on the community you are in, resident demographics, and whether the facility has a certain specialty. When designing these facilities, the process of ageing must also be kept in mind; this includes reduced vision in low light, reduced field of vision, reduced hearing, loss of muscle strength, reduced reflexes, reduced memory, and visual perception changes. It has been proven that creating a facility that has a friendly and home-like atmosphere increases resident satisfaction. Conversely, too much noisiness can be a problem – such as in a large dining room or in hallways. (Hsieh, 2012). This work requires expertise from health and social sciences to examine individual changes and preferences related to ageing; community research to inform changes; engineering

expertise to develop technological solutions that meet the individual and community needs as well as advocacy and decision making that are informed by research evidence. To this end, our team of researchers from six faculties (see section 7 for specific faculty expertise) brings together the right expertise to address seniors' needs related to health, mental health, community engagement, and optimal design of physical spaces, among others.

Development of Innovative Technological and Social Solutions. Recently there has been a great emphasis on the need for and development of technological solutions to assist older adults to live well in place or in the community. For instance, in November 2021, the NRC's Aging in Place Challenge program and CIHR Institute of Aging joint funding call was released, seeking proposals for the technological solutions to support various ageing needs. This is one of the many calls and priorities for funding focused on technology to support health ageing. This is well aligned with the strong expertise at our university that translated in the development of video games, gamified platforms, the use of virtual and augmented reality and 3D printing to support education and treatment of older people, their families and health care providers. This focus is also aligned with Ontario Tech's "tech with a conscience" philosophy, which values and promotes the development of ethical and meaningful technological solutions.

Implementation Science. Implementation science, defined by the National Institutes of Health as the scientific study of strategies to adopt and integrate evidence-based health innovations into routine practice, continues to grow within research, education, and practice-based settings (Bauer et al., 2015). The imperative to attend to the implementation process has emerged over the last two decades in the face of growing recognition that effective practices and treatments/innovations do not passively make their way into routine practice. Implementation requires distinct expertise and capacity (Brehaut & Eva, 2012). Regardless of how effective an innovation is, not paying attention to its implementation in practice, often leads to suboptimal outcomes and wasteful research. For this reason, implementation science has become a global undertaking. For instance, in United States, most research that has practical/applied impact is required to be informed by implementation science evidence. Similarly, in Canada, several recent calls for research proposals have included requirements to use an implementation science lens/methodology (e.g., Implementation Science Teams – Strengthening Pandemic Preparedness in Long-Term Care Funding Opportunity from CIHR; https://cihr-irsc.gc.ca/e/52118.html). Our Centre's focus on implementation science is timely and consistent with the direction of the geriatric research; for instance, in 2021, the journal The Gerontologist has released a call for papers for the Special Issue: Implementation Science in Gerontology. To this end, our faculty bring expertise in implementation science and strong community partners, enabling not only the development of research evidence but also the effective implementation of this evidence in practice.

In summary, the proposed Age With Dignity Research Centre is timely and the result of the intersection between pressing, unprecedented and complex ageing needs, on the one side, and our University's research expertise and unique strengths on the other side. For this reason, we believe that the proposed Centre has the potential to make a significant contribution to the science of ageing as well as inform policies, decision making and best practices.

RESEARCH PILLARS. It is important to note that the scope, focus and specific pillars of the Age With Dignity Research Centre were determined as a result of ample consultations with the research and teaching faculty at Ontario Tech University, organized by the Vice-President, Research and Innovation, Dr. Les Jacobs. These consultations took place over the span of several months:

- April 14, 2021 – first town hall meeting, attended by approximately 43 faculty. Faculty expressed high interest and enthusiasm for this initiative.
- May 11, 2021 – meeting to discuss the focus of the proposed Research Centre; those that attended the initial town hall and expressed an interest in continuing to be involved were invited
- September 22, 2021 – meeting to discuss the proposed Research Centre and seek further input from the research and teaching faculty regarding the scope of the Centre, funding mechanisms and organizational structure; those that attended the May 11 meeting and expressed an interest in continuing to be involved were invited.

The following four pillars were identified through consultations, as outlined below.

PILLAR 1 Ageing Interdisciplinary Research	PILLAR 2 Social and Technological Solutions	PILLAR 3 Policy and Evidence-Informed Practice	PILLAR 4 Community-Driven Research and Innovation
Lead: Dr. Winnie Sun	Lead: Dr. Bill Kapralos	Lead: Dr. Jennifer Laffier	Lead: Dr. Shilpa Dogra
Conducting interdisciplinary research to advance the science of ageing with respect to social, physical, cognitive, and emotional age-related changes and their impact on functioning and well-being.	Development of innovative technological solutions to support ageing, regardless of where it happens (e.g., tools for educating older adults and health care providers and for treating older adults).	Using research evidence to inform policies, decision-making, and best practices, by focusing on knowledge mobilization and implementation.	Building strong relations with community partners for community engagement, outreach activities, developing and supporting age-friendly community initiatives, culminating in a campus of care approach to ageing.

ANTICIPATED OUTCOMES. We anticipate that our Age With Dignity Research Centre will lead to positive impacts for both the society and our institution:

Society

- Advance the science of ageing by conducting interdisciplinary research
- Inform best practices and decision-making in ageing based on research evidence
- Impact communities and contribute to more age-friendly initiatives
- Foster longer and healthier lives for older adults

University

- Increase the visibility of the research and expertise at Ontario Tech University
- Provide unique training and capacity building opportunities for students/trainees

3.2 Describe how the entity will foster synergistic collaboration that would not otherwise be possible, and how the entity would facilitate research among scholars within the university and in the wider community.

As noted above, population ageing has been documented globally (United Nations, 2019; World Health Organization, 2015), nationally (Statistics Canada, 2015, 2019), and locally (City of Oshawa, 2019). The Canadian population, as already mentioned in the background, is ageing and, for 2019, Canada's seniors or older adults aged 65 and older represented about 18% of the country's total population (Statistics Canada, 2019). This number is expected to increase as the baby boomers get older and life expectancy increases (Statistics Canada, 2015). Moreover, in the City of Oshawa, the population of older adults aged 55 and older was estimated at 31% of the city's total population (City of Oshawa, (2019). The ageing process comes with changes that affect older adults' wellbeing. Older adults require a supportive and empowering physical and social environment to counterbalance the age-related changes, and losses (Association of Municipalities Ontario, 2016).

This increase in the senior population highlights the need to better understand ageing and provide supports to enhance quality of life. *There are currently fundamental gaps in our knowledge and best practices, revealed and exacerbated by the Covid-19 pandemic.* This is a highly complex issue that goes beyond individual seniors and cuts across systems of care, social issues, health and mental health outcomes, training of healthcare professionals, development and implementation of evidence-based interventions and technological solutions, and optimal design of physical spaces. *Given the complexity and magnitude of these issues, a collective approach, capitalizing on multiple areas of expertise, is crucial to success. The proposed Age with Dignity Research Centre, with support and membership from six faculties at Ontario Tech University (Health Sciences; Social Sciences and Humanities; Education; Engineering and Applied Science; Business and Information Technology; and Faculty of Energy Systems and Nuclear Science) is intended to fill this gap.*

Over the years, it has been evident that many faculty members from different faculties were interested in improving seniors' lives, including healthy individuals, those living in the community, and those in long-term care residences. The need to merge these collaborations and collaborators is very strategic to ensure the creation and the development of the research center. The creation of the Age With Dignity Research Centre in Oshawa, is certainly an advantage as we are in a privileged position to maintain our "pioneer" work being a significant suburb institution of the Greater Toronto Area; this will provide a foundation for *establishing a state-of-the-art Age With Dignity Research Centre focusing on seniors' quality of life and ageing in dignity, both at home and in long-term care residences.*

We need to build capacity in research to minimize the consequences that the pandemic has had and is still having on seniors such as loneliness, depression, and all related impact of the issues encountered during this period. To this end, the Age With Dignity Research Centre will bring together various areas of expertise (health, social sciences and humanities, engineering) and methodological approaches (quantitative, qualitative) to build a strong evidence base to inform both research and practice. *This is a unique feature of our Age With Dignity Research Centre and our relative advantage: to our knowledge although there are research centers or institutes focused on ageing, that are affiliated with Canadian universities, none take an interdisciplinary approach to ageing with dignity and long-term care best practices.* The proposed Age With Dignity Research Centre is timely as it can focus on lessons learned or to be learned post-pandemic. There is a wealth of opportunities to build from in ensuring not only quality of care for seniors but overall quality of life, using the primary health care approach and the most innovative technologies and evidence.

We envision that this Age With Dignity Research Centre will become a major focal point for ageing related research, consultation, education and training within the university, and in Ontario, Canada and worldwide. This upcoming Age With Dignity Research Centre will bring together the diverse capabilities of individual university academics, leveraging their combined expertise to address specific issues, problems, allowing for more significant funding opportunities to be exploited. For the purposes of this proposal, interested faculty members have been included (see item 7); whilst it is expected that members participate in the grant

applications prepared by the Age With Dignity Research Centre, they remain free to pursue their own funding.

4. Research Mandate

4.1. Outline the type of research to be performed and identify the scope of activities envisaged.

Though Ontario Tech University is a small university, most of the research still happens in silo. The main objective of the proposed research centre is to create a fertile ground for potential collaboration between researchers from different disciplines. More specifically, the Age With Dignity Research Centre will allow researchers to:

- Have more structured opportunities for networking and sharing ideas
- Address bigger challenges in ageing and create larger and impactful solutions for society
- Identify gaps, develop innovative technological solutions guided by the principle of "tech with a conscience", and examine impacts at multiple levels (individual, institution, society) by combining expertise from health, social sciences and humanities and engineering
- Participate in student supervision and co-supervision (in particular faculty members from faculties that do not have graduate programs)
- Create research and experiential opportunities for both undergraduate and graduate students across the university
- Engage research partners across both the Broader Public Sector and the Private Sector
- Leverage the power of the Age With Dignity Research Centre when applying for individual or large grants (Canada Foundation for Innovation, NSERC Collaborative Research and Training Experience Program (CREATE), NSERC Networks of Centres of Excellence (NCE), New Frontiers in Research Fund, SSHRC Partnership grants, CIHR, Ontario Research Fund – Research Excellence; ORF-RE; eCampus Ontario).

Being a small and innovative university, and with many cross appointments and faculty collaborations, establishing an Age With Dignity Research Centre will provide a rich environment to cultivate and promote research on the influence of the design and development of future technologies, maintaining and enhancing current projects, with local partners such as Oshawa Senior Community Centres (OSCC), Teaching City, Durham Region, and City of Oshawa (age-friendly initiatives).

The exploration of new areas and discovery research is also a priority so to equip the current and future health care providers in our programs to be competent in:

- Researching and implementing customized best practice for our diverse ageing population
- Delivering quality care to seniors
- Developing innovative educational materials on intergenerational aspects of ageing and lifespan development (health literacy, grand parents and breastfeeding to be developed further)
- Training health care professionals using innovative methods and technologies to support both technical and non-technical competencies (i.e., communication, relational)

Finally, we will engage in additional activities to better understand the existing strengths and resources at the University, locally and regionally, to realize the vision of the Age With Dignity Research Centre:

- Reviewing what courses are being offered in our programs at Ontario Tech University
- Developing a survey to capture what types of related projects are in progress or completed in all our faculties
- Working with Advancement to identify potential sources of revenues, donations, etc.
- Identifying/collaborating with researchers who are working with local and Indigenous communities
- Engaging with administrators of long-term care homes regionally to explore needs and co-create solutions and explore the possibility of establishing a living lab for nursing, social sciences, and health sciences students (e.g., the new administrator of the long-term care home at Ajax Pickering Hospital; Hillsdale Terraces, Hillsdale Estates, Fairview Lodge, Lakeview Manor)

4.2. Explain how the research activities align with Ontario Tech's Strategic Research Plan. https://research.ontariotechu.ca/discover-research/strategic-research-plan/index.php

The proposed Age With Dignity Research Centre capitalizes on several of the *University's strengths* - Community Wellness, Human Performance and Health Promotion; Digital Technologies, Machine Learning and Artificial Intelligence; Advanced Manufacturing and Materials.

The proposed Age With Dignity Research Centre will contribute to realizing key *research priorities* such as Data Science, Artificial Intelligence and New Technologies; Healthy Populations, Community Well-Being and Social Justice; Intelligent Manufacturing and Materials Innovation; and Social Innovation, Disruptive Technologies and the New Economy.

The Age With Dignity Research Centre will also contribute to the strategic priority of broadening and intensifying Ontario Tech University's research agenda under the *broader theme* of "meaningful connections with our local and global communities". To this end, the Age With Dignity Research Centre will develop new partnerships and strengthen our existing ones with the City of Oshawa's Teaching City, City Studio Durham, Carea Community Health Centre, Lakeridge Health, Long-term Care & Services for Seniors Division, The Regional Municipality of Durham, Table francophone de concertation en santé de la région Durham/Francophone Community Table on Health – Durham Region, Alzheimer's Society of Durham and the Oshawa Senior Community Centres at the local level.

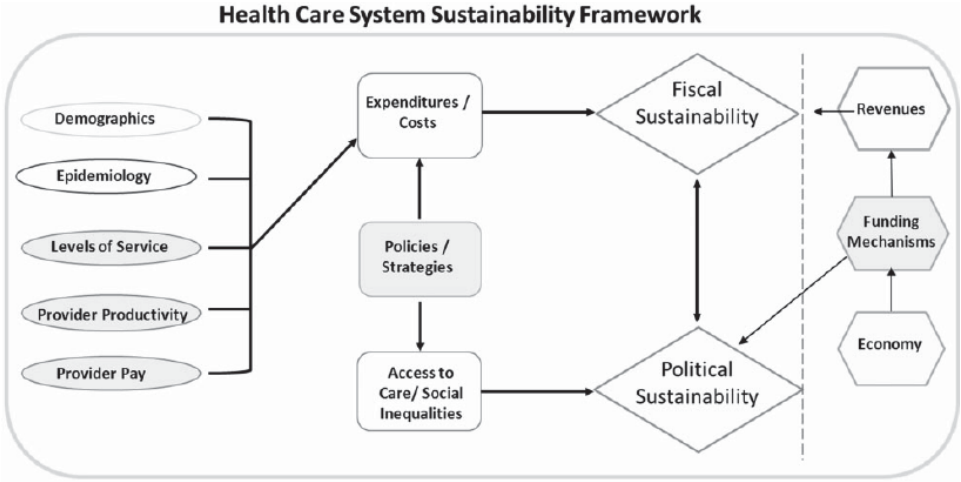
Provincially, nationally, and globally, the co-proposers of the Age With Dignity Research Centre are already involved with the World Health Organization (WHO), Ontario Interdisciplinary Council of Ageing and Health, Baycrest Geriatric Education Centre, Center for Learning and Research Innovation in Long-Term Care, Health Canada, Mental Health Commission of Canada, Migrants Resource Center Canada, Advisory Committee on Seniors Services and Long-Term Care City of Toronto, and University of Toronto Rehabilitation Sciences Institute. We plan to leverage these partnerships, as needed, to maximize the impact of our research.

Finally, the principle of "*tech with a conscience"* is highly relevant as the creation of this Age With Dignity Research Centre will build on the existing strengths in interdisciplinary research to create innovative and ethical technological solutions for the future that will support ageing with dignity.

4.3. Provide evidence for long-term sustainability of the entity, including research activities that go beyond collaboration on a single project.

A large body of literature shows that considering sustainability early on is crucial to the success of longevity of various initiatives (Proctor, 2015). For the proposed Age With Dignity Research Centre, sustainability will be ensured by fostering a collaborative approach between faculty members coupled with a solid management plan, with specific outcomes and deliverables.

In addition, the goal of the Director is to use a framework that can guide the development and implementation of evidence and projects into actual settings and contribute to the expansion of seniors related policies. We propose to use the following framework (see Figure below) and adapt it accordingly (as the focus is financial but certainly relevant as we move forward with the Age With Dignity Research Centre).



In place of fear: aligning health care planning with system objectives to achieve financial sustainability Stephen Birch, Gail Tomblin Murphy, Adrian MacKenzie and Jackie Cumming. J Health Serv Res Policy OnlineFirst, published on December 11, 2014 as doi:10.1177/1355819614562053

In addition to the above framework related to sustainability, it is important to focus on implementation, informed by the field of implementation science, which is aligned with the focus of all Tri-Council agencies. To this end, the Consolidated Framework for Implementation Research (CFIR; https://cfirguide.org/wp-content/uploads/2019/08/cfirconstructs.pdf) will inform the Centre's work to ensure that the research evidence is implemented based on strong evidence from implementation science.

Within the first two years, the Age With Dignity Research Centre will focus on a rapid start of activities that include creating a supportive infrastructure and building relationships within and outside the Centre. With the help of various parties at the university, members of the Age With Dignity Research Centre will also be involved in a fundraising program to raise money to support the activities of the Age With Dignity Research Centre. The details of these programs and activities are included below.

A. Build Institute Governance Body, Infrastructure and Relationships

- Create a steering committee (6-7 members) from faculty members within the Age With Dignity Research Centre representing the various areas of interest.
- With the help of the Office of Research Services, the steering committee will develop an internal governance body, responsibilities, procedures and processes for overseeing the Age With Dignity Research Centre activities, including the process of allocating money raised through funding activities, reporting structure, scheduling regular meetings, to mention a few.
- Create promotional materials to reflect the research expertise and capabilities of the Age With Dignity Research Centre.
- Pursue research funding in partnership with private and public sector partners.
- Organize inter-disciplinary funding development workshops.
- Foster and develop inter-university relationships and funding proposals; potential venues for funding the Age With Dignity Research Centre include: NSERC, SSHRC, CIHR, CFI, MITACS, ORF-RE, eCampus Ontario, and OCE.

B. Fundraising

The Director of the Age With Dignity Research Centre will work with the Advancement Office at Ontario Tech University to develop a plan for initiatives to help attract donors and sponsors. We will additionally capitalize on the strong partnerships that faculty members have already established with various public and private organizations.

The money raised from the fundraising activities will be used to:

- Support interdisciplinary research and innovation in ageing with dignity and long-term care best practices
- Support graduate research assistantship for graduate students
- Create a number of scholarships for graduate and undergraduate students
- Initiate a new major/concentration/specialization in our undergraduate programs specific to ageing with dignity
- Sponsor seminar series on campus and on premise
- Develop relevant courses/micro-credentials

5. Student Involvement and Training

5.1. Explain the level and type of involvement of undergraduate or graduate students in the entity's activities. Describe the unique research and training opportunities that will arise as a result of the entity.

The main reason for establishing the Age With Dignity Research Centre at Ontario Tech University is to bring together our qualified human resources re: ageing and to afford stronger and more impactful research initiatives. It is anticipated that this will attract undergraduate students (for example, from research practicum in health sciences and from other programs who support research in ageing) and build the students' research capacity, enhance their academic engagement and foster their interest in pursuing graduate programs. Importantly, this is aligned with the general direction of the gerontology and geriatrics fields, which are moving forward towards specialized and technological approaches. By including this focus in our programs and the approach of the Age With Dignity Research Centre, we will contribute to training the next generation of highly qualified personnel who will solve key issues related to seniors' care such as long-term care, stay at home, use of technology, and community involvement.

The Age With Dignity Research Centre will also benefit our graduate students from all faculties, as it will open unique opportunities to collaborate with partners (i.e., potentially a new interdisciplinary graduate program); work on large research grants; disseminate research results broadly to influence research, policies and practice; and be trained in research methods across multiple disciplines.

Beyond graduate student opportunities, there is also the chance to engage our students in work with seniors. For example, our B.Ed. students are teaching seniors how to use social media. So many opportunities that benefit both of our student population and the seniors in our community

It is anticipated that members of the Age With Dignity Research Centre will apply for a NSERC Collaborative Research and Training Experience Program (CREATE) grant. Our collaborative and interdisciplinary approaches to research and the Age With Dignity Research Centre's infrastructure will increase the chances of receiving the grant. Additionally, some of the donated funds to be received by the Age With Dignity Research Centre will be used to support additional graduate and undergraduate students, providing these students with additional experiential learning and research practicum opportunities. *A unique feature is that undergraduate and graduate students will also have the opportunity to join the Age With Dignity Research Centre in a more formal way, through a fellowship program that will be developed as part of the centre.*

All faculty members associated with the Age With Dignity Research Centre have a strong track record of supervising graduate and undergraduate students. It is anticipated that the Age With Dignity Research Centre will enable co-supervision from multiple faculties, enhancing students' training experience. This will provide faculty members from faculties that do not have graduate programs with access to supervise graduate students from other faculties. Moreover, given the vision of the Centre to conduct interdisciplinary research on ageing and the Centre membership spanning multiple faculties, *students will have a unique training experience that will address key equity, diversity and inclusion (EDI) challenges*. For instance, underrepresentation of women in certain disciplines creates EDI barriers such as limited exposure to women role models/mentors in science. The proposed Age With Dignity Research Centre, through its interdisciplinary membership spanning across six faculties, will address this barrier and strengthen the University's commitment to EDI. In addition, this collaborative work in interdisciplinary will be important in light of graduate program development in interdisciplinarity.

5.2. Describe the contribution, if any, to the development of new courses, seminars, or instructional programs in collaboration with the appropriate Faculty/ies.

Looking ahead, the Age with Dignity Research Centre will consider the following initiatives:

- Creating a joint FHSc-FSSH undergraduate course in ageing with dignity. This course will emphasize the health and social justice issues related to the ageing process.
- Exploring opportunities (in collaboration with colleagues from the Faculty of Engineering and Applied Sciences, Energy Systems and Nuclear Sciences, and Education) to apply software and data analytics methods to study ageing.
- Exploring partnership with the newly created Regional Centre for Dementia Care and Recovery (RCDCR). Preliminary discussions with Dr. Winnie Sun, the Co-Research Chair, suggest that collaborations in the field of cognitive rehabilitation research would benefit both the Research Centre and RCDCR.
- Develop relevant micro-credentials in collaboration with Continuous Learning at Ontario Tech
- Collaborate with TALENT-job readiness skills in providing support for new grads and/ or engaging current students in a variety of opportunities (such as coops or internships).
- Apply to the eCampus Ontario funding opportunities to create high-quality virtual learning content through the continued development, adaptation, adoption and translation of educational materials and micro-credentials.

6. Research Dissemination and Service Plan

Describe any unique plans for dissemination of research, and/or how the research entity will provide service and impact programs and policies within Ontario Tech University and to the outside community.

It is anticipated that members of the Age With Dignity Research Centre will organize a yearly workshop, or symposium on ageing with dignity at Ontario Tech University to share relevant research outputs as well as to raise the profile of the Age With Dignity Research Centre and the university nationally and internationally. The event will also include community partners and professional personnel such as health care providers, administrators of long-term care homes and decision-makers. Information about the event, in addition to other research activities and outcomes will be continually published on the Age With Dignity Research Centre's website. We will also use social media to increase awareness and promote the activities of the Age With Dignity Research Centre.

To ensure rigor and maximize impact, our dissemination work will be guided by established dissemination and knowledge translation frameworks (e.g., Knowledge to Action Framework, KTA; Graham et al., 2006). This will ensure that there are clear dissemination and knowledge translation goals (i.e., to bring awareness, change practice, inform policy, educate), target audiences (i.e., seniors, health care professionals, decision makers), and activities/products (i.e., prepare policy briefs, conference presentations, infographics and videos, publications). Specifically, to bring awareness about the Age With Dignity Research Centre in the academic world, we will ensure that we have a strong presence at major ageing conferences and events.

Furthermore, to increase our visibility with potential partners, we will use existing networks for dissemination, participate in community events, share promotional materials with the long-term care homes, participate in townhall meetings, among other activities.

7. Membership List, CVs and Affiliations

Provide the name, faculty (or institutional affiliation), Curriculum Vitae, and expected contribution of principal members. (Research entities shall not normally require the hiring of new full-time academic faculty. Each member, including the director, should hold an academic appointment at the university).

The proposed Age With Dignity Research Centre has strong support and membership from six faculties at Ontario Tech University (Health Sciences; Social Sciences and Humanities; Education; Engineering and Applied Science; Business and Information Technology; and Faculty of Energy Systems and Nuclear Science). *We believe that this is crucial to its success given that interdisciplinary research is at the core at the Age With Dignity Research Centre, with the ultimate goal of answering complex questions and developing innovative and effective solutions to support ageing with dignity.*

Name	**Position/Faculty**	**Area of expertise /contribution**
Manon Lemonde, PhD	Associate Professor, Faculty of Health Sciences	Quality of life and symptoms management; program evaluation; health human resources; seniors' health
Jennifer Abbass Dick, PhD	Assistant Professor, Faculty of Health Sciences	Randomized controlled trials; Transition to parenthood; Fathers, partners, grandparents and co-parents
Akramul Azim, PhD	Associate Professor, Faculty of Engineering and Applied Science	Embedded systems (including medical and healthcare); software; testing; quality assurance; development
Pierre Côté, PhD	Professor and Canada Research Chair in Disability Prevention and Rehabilitation, Faculty of Health Sciences	Epidemiology; Disability; Rehabilitation; Public health
Shilpa Dogra, PhD	Associate Professor, Faculty of Health Sciences	Active ageing; Age-friendly environments; Sedentary behaviour and physiology; Chronic disease prevention and management; Community based research; Laboratory based research; Secondary data analysis
Adam Dubrowski, PhD	Professor and Canada Research Chair in Health Care Simulation, Faculty of Health Sciences	Simulation; education; 3D printing; innovative technologies; health professionals' education; implementation science

Bill Kapralos	Associate Professor, Faculty of Business and Information Technology	Immersive technologies, serious gaming, multimodal virtual environments, virtual learning environments, spatial sound
Alyson King, PhD	Associate Professor, Associate Dean, Undergraduate Student Experience, Faculty of Social Science and Humanities	Higher education; adult education; academic integrity; supported education; post-secondary student experience
Joseph Krasman, PhD	Associate Professor, Faculty of Business and Information Technology	Organizational behavior; HR
Jennifer Laffier, PhD	Assistant Professor, Faculty of Education	Discrimination and Agism; Senior mental health; technology for seniors; age friendly design
Eleodor Nichita, PhD	Associate Professor, Faculty of Energy Systems and Nuclear Science	Modelling and computation; Numerical methods; Diagnostic imaging (ultrasound, x-ray, computed tomography, nuclear medicine, MRI); Software development; Data analytics; Artificial Intelligence
Mika Nonoyama, PhD	Associate Professor, Faculty of Health Sciences	Chronic respiratory disease; pulmonary rehabilitation; home mechanical ventilation; pediatric respiratory therapy
Jen Rinaldi, PhD	Associate Professor, Faculty of Social Science and Humanities	Institutional violence; mental disability; Anti-carceral feminism; Migrant labour
Lorayne Robertson	Associate Professor, Faculty of Education	Technology integration, Equity, diversity and Inclusion, Ageing in place
Namdar Saniei, PhD	Associate Teaching Professor, Faculty of Engineering and Applied Science	Electronics; Integrated Circuit Design; Computer Engineering; Communications Engineering
Vivian Stamatopoulos, PhD	Associate Teaching Professor, Faculty of Social Science and Humanities	Long-term care; unpaid family caregiving; essential family caregivers; Covid-19 policies
Wendy Stanyon, RN, EdD	Associate Professor, Faculty of Health Sciences	Mental Health/Illness Awareness; Self-Care; Resilience; Mindfulness; Vulnerable Populations (first responders, homeless individuals, caregivers); Educational Technology (computer-based simulations)
Winnie Sun, PhD	Associate Professor, Faculty of Health Sciences	Dementia Care; Home Care; Long-Term Care; Gerotechnology; Geriatric Care; Medication Safety and Management

8. Resource Requirements

8.1. Physical Requirements

8.1.1. Explain the type, size and location of space desired, and how the desired space is appropriate to the proposed research entity's needs. Specific space commitments must be secured from the office of the Provost. Mention all special equipment or other requirements that have space implications.

There are no new lab requirements. Faculty members who join the Age With Dignity Research Centre will utilize their existing research spaces.

8.1.2. Provide a complete list of all required resources and equipment including computers, phones, and copiers. Specify what internal resources (i.e. library, audio-visual) will be used and to what extent.

The inaugural director holds an office with all the necessary equipment. The majority of the work can be done virtually, for the initial start, and the proposer and co-proposers have the necessary resources to conduct this work. It is expected to have access to the required journals and periodicals through the library and its resources.

8.2. Staffing Requirements and Governance Structure

8.2.1. Explain any requirements for administrative, and/or technical personnel support from the University. List the following for each support staff member:

- Proposed Employer will be the university
- Role or Duties
- Source of Compensation

At this point in time, there are no new staff requirements. Project manager, graduate and undergraduate students, associate and senior scientist will join Age With Dignity Research Centre activities as appropriate, in tandem with securing research funding.

8.2.2. For personnel within the research entity who are employees of external institutions or corporations and not employees of Ontario Tech University, provide copies of agreements outlining the obligations of both Ontario Tech University and the external institution or corporation.

8.2.3. Describe the governance structure for the research entity. Indicate the structure, composition and decision-making processes that will facilitate the operations and research activities of the research entity.

The initial staffing model of the Age with Dignity Research Centre would consist of a **Director.** Initial administrative support will be provided by existing faculty staff. The **Director** will:

- Report to the Dean of the Faculty of Health Sciences and the Vice-President, Research and Innovation
- Lead fundraising initiatives
- Champion the Age With Dignity Research Centre internally and externally, and encourage and enhance pursuit of interdisciplinary research grant applications related to the objectives of the Research Centre

- Lead the development and operation of the Age With Dignity Research Centre as an excellent applied research and outreach organization
- Provide leadership and support to the staff and faculty affiliates of the Age With Dignity Research Centre
    - Support members of the centre with research grant applications and scholarly publishing
- Coordinate the Age With Dignity Research Centre's outreach activities and interact with external bodies (funding agencies, media, other research organizations, and the public)
- Administer funding and in-kind contributions provided in accordance with budgets approved by Ontario Tech University's financial accountability policies
- Oversee conferences as per the funding plan
- Promote the Age With Dignity Research Centre and the work of its affiliate researchers at local, national, and international conferences, and to the media.
- Collaborate with the Committee for an Age-Friendly University (great partner for knowledge mobilization and resource for researchers)

8.3. Budget and Financial Requirements

8.3.1. Prepare a detailed budget projection for the first five years of operation, including all sources of income, expected expenses/disbursements. (See Excel Template)

8.3.2. Start-up funding may be available for the establishment of research entities. Justify your request for start-up funding.

No start-up will be requested.

8.3.3. Provide a plan for the long-term financial sustainability, including external funding, of the Research Entity.

Each core scientist is responsible for and committed to applying and securing funding for their respective research area, independently or in collaboration. As mentioned in the proposal, the members will be developing strategic plan and explore funding opportunities with the funding agencies, their partners and collaborators. Short term, our sustainability approach will capitalize on using in-kind contributions (from various offices on campus) and professional development funds to create a presence on campus, regionally and provincially; at the same time, we will pursue other lines of funding from internal, external grants and development of courses /microcredentials. We believe that this approach will increase the feasibility and sustainability of the proposed Age With Dignity Research Centre.

9. Intellectual Property and Commercialization

9.1. Describe any proposed arrangements with members (including members from external institutions) relating to the ownership and/or commercialization of intellectual property created through work undertaken at the Research Entity

As a research entity within Ontario Tech University, the Age With Dignity Research Centre will follow the same intellectual property and commercialization policy used at the university, which

states that the ownership of intellectual property developed using funding from the research centre belongs to the faculty members and students. All organizations that want to partner with the Age With Dignity Research Centre will follow the regular process established by the Office of Research Services.

9.2. Describe proposed arrangements for the conduct of private sector contract research.

Arrangements for the conduct of such work are undertaken in collaboration with and at the direction of the respective Office of Research of each partner institution, depending on the affiliation of the principal researcher. All arrangements are made consistent with institutional policies and procedures.

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Institute Budget

	Items	Year 1	Year 2	Year 3	Year 4	Year 5	Total	Justification	NOTE
1. Operatonal Budget									
1.1 Labour Costs - Institute Staff									
	Project Manager	$ -	$ -	$ -	35,032	$ 36,062	$ 71,094	50% FTE	
				$ -	$ -	$ -	$ -		
	Benefits (9%)	$ -	$ -	$ -	$ 3,153	$ 3,246	$ 6,398	Employer Costs @ 9%	
SUB-TOTAL LABOUR		**$ -**	**$ -**	**$ -**	**$ 38,185**	**$ 39,308**	**$ 77,492**		
1.2 Labour Costs - Director									
	Teaching Releases (Director)	$ 8,823	$ 8,823	$ 8,823	$ 8,823	$ 8,823	$ 44,115	1 course release per year.	
	Benefits (9%)	$ 794	$ 794	$ 794	$ 794	$ 794	$ 3,970		
SUB-TOTAL LABOUR		**$ 9,617**	**$ 9,617**	**$ 9,617**	**$ 9,617**	**$ 9,617**	**$ 48,085**		
1.3 Institute Operating Costs									
	IT support and equipment	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 5,000	video production	
	Office Supplies and Services	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 5,000	basic office supplies, most from faculties	
	Other (explain)								
SUB-TOTAL-Institute Operating Costs		**$ 2,000**	**$ 2,000**	**$ 2,000**	**$ 2,000**	**$ 2,000**	**$ 10,000**		
2. Research Networking									
	Seminars and Workshops	$ 1,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 9,000	Annual workshop hosting costs (principally refreshments).	
	Work-in-progress Workshops							Attending Canadian Gerontology Association conference (attending regardless)	
	Partnerships								
	Other (explain)								
SUB-TOTAL-Research Networking		**$ 1,000**	**$ 2,000**	**$ 2,000**	**$ 2,000**	**$ 2,000**	**$ 9,000**		
3. Communications									
	Website and social media	$ 500	$ 500	$ 500	$ 500	$ 500	$ 2,500	create, maintain, expand, update website, Domain name server fees	
	Other (Merchandise)								
SUB-TOTAL Communications		**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 2,500**		
4. Knowledge Transfer and Dissemination									
	Publication Costs	1000	1000	1000	1000	1000	5000	Promotional material	
	Conference		$ -	0	$ 25,000		25000	SSHRC connections grant unsecured	
	Other (explain)								
SUB-TOTAL KT		**1,000**	**1000**	**1000**	**26000**	**1000**	**30000**		
TOTAL OPERATIONAL BUDGET	**Total Operating Cost**	**$ 14,117**	**$ 15,117**	**$ 15,117**	**$ 78,302**	**$ 54,425**	**$ 177,078**		
REVENUE									
	VPRI Contributions	$ 9,617	$ 9,617	$ 9,617	$ 9,617	$ 9,617	$ 48,085	**Secured years 1-2 VPRI. Unsecured year 3-5.**	
	External Grant Funding (Director)	$ 1,000	$ 1,000	$ 1,500	$ 5,000	$ 5,000	$ 13,500	**Unsecured**	
	External Grant Funding (Members)	$ 5,000	$ 10,000	$ 10,000	$ 30,000	$ 30,000	$ 85,000	**Unsecured - Proposed that each of faculty member collaborating in the centre contribute $1,000 - 5,000 each towards centre staff and resourcing. To be built into grant applications.**	
	SSHRC connections grant				$ 25,000			**Unsecured**	
	External Donor Funding	$ -	$ -	$ -	$ 10,000	$ 20,000	$ 30,000	**Unsecured**	
TOTAL REVENUE		**$ 15,617**	**$ 20,617**	**$ 21,117**	**$ 79,617**	**$ 64,617**	**$ 201,585**	**As funding is secured additional labour and expenses will be added. Zero sum budget.**	
TOTAL OPERATIONAL BUDGET LESS REVENUE		**$ 1,500**	**$ 5,500**	**$ 6,000**	**$ 1,315**	**$ 10,192**	**$ 24,507**		

Note: Budget is an estimate based on project activities. Budget expenditures will only be incurred as funding is secured.

		Research Costs						
		Year 1	Year 2	Year 3	Year 4	Year 5	Total	
Student and Postdoc Salaries								
								Comments
	Research Assistants							
	Masters Students	$ -	$ 34,000	$ 34,000	$ 34,000	$ 34,000	$ 136,000	Masters students to be paid either as a GRA or Research Assistant. Rates will vary depending and subject to grant funding.
	PhD Students	$ -	$ -	$ -	$ 36,000	$ 36,000	$ 72,000	PhD students will be included as funding is available.
	Post-Doctoral Students				$ 45,000	$ 45,000	$ 90,000	Postdoctoral Researcher - at least one PDF will be affiliated with the Institute as funding becomes available.
	Undergradate Students	$ 12,880	$ 13,266	$ 13,664	$ 14,074	$ 14,497	$ 68,381	
SUBTOTAL Trainees		**$ 12,880**	**$ 47,266**	**$ 47,664**	**$ 129,074**	**$ 129,497**	**$ 366,381**	
Research Operating Costs								
	Travel	$ -	$ 1,500	$ 2,500	$ 5,000	$ 5,000	$ 14,000	Students and Faculty travel to conferences
	Equipment	$ -	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 4,000	Software, video conferencing, security
	Maintenance of research inrastructure							
	Other (explain)							
SUBTOTAL Operating		**$ -**	**$ 2,500**	**$ 3,500**	**$ 6,000**	**$ 6,000**	**$ 18,000**	
TOTAL RESEARCH COSTS		**$ 12,880**	**$ 49,766**	**$ 51,164**	**$ 135,074**	**$ 135,497**	**$ 384,381**	
REVENUE RESEARCH								
	Grant Funding	$ 12,880	$ -	$ -			$ 12,880	Secured - workstudy/USRA/Faculty member match/Other
	Grant Funding Members/Director		$ 49,766	$ 51,164	$ 135,074	$ 135,497	$ 371,501	Unsecured
	TOTAL REVENUE	**$ 12,880**	**$ 49,766**	**$ 51,164**	**$ 135,074**	**$ 135,497**	**$ 384,381**	
	TOTAL REVENUE LESS EXPENSES	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	

NOTE: Research Budget Expenditures will align with secured funding. Expenses will only be incurred as research funding is secured

BOARD REPORT

ACTION REQUESTED:

Recommendation	☐
Decision	☒
Discussion/Direction	☐
Information	☐

DATE: March 10, 2022

FROM: Academic Council

SUBJECT: New Program Proposal – Undergraduate Diploma in Public Policy

COMMITTEE MANDATE:

In accordance with Section a) of the Undergraduate Studies Committee (USC) Terms of Reference, USC has the responsibility "to examine proposals for new undergraduate degree programs and major changes to existing programs and to recommend their approval, as appropriate, to the Academic Council".

And,

In accordance with Article 1.4 of By-Law Number 2 of the University of Ontario Institute of Technology "Academic Council will make recommendations to the Board on matters including: a. the establishment or termination of degree programs".

MOTION FOR CONSIDERATION:

That pursuant to the recommendation of the Academic Council, the Board of Governors hereby approves the Undergraduate Diploma in Public Policy, as presented.

BACKGROUND/CONTEXT & RATIONALE:

The Diploma in Public Policy (DPP) is an undergraduate diploma offered by the Faculty of Social Science and Humanities, associated with the Political Science program. Designed for flexibility with two core foundational courses and a wide selection of elective courses that focus on contemporary issues, the program is open to students who are currently enrolled in or who have completed an undergraduate degree in any discipline. Students who have completed an Ontario College diploma with a minimum 80% average may be considered. The program will provide foundational understanding of public policy for the service, corporate, government, non-governmental and/or educational sectors. The program consists of 24 credit hours and may be taken on a part-time or full-time basis. Taken full-time, the program can be completed in two semesters.

An undergraduate Diploma in Public Policy (DPP) will provide students who have a background in a variety of disciplines with the opportunity to expand their understanding of how policy decisions are made and how policies are developed and implemented. By offering the DPP both concurrently with another degree program and consecutively after completing an undergraduate degree or college diploma, we will expand the opportunities for students from Ontario Tech and other universities or colleges to take the program on a timetable that suits their own needs. Students who are enrolled in or who have completed an undergraduate degree in Political Science will be required to follow a modified program map in order to avoid duplication of courses and course material. The DPP addresses an identified need for courses on public policy issues and policy development to be available to students outside of the Political Science program. This proposed program fits with the newly created Vision, Mission and Values statements by allowing students who are studying or who have graduated from disciplines including Engineering, Health Science, Information Technology, Science, and the like, to learn about and understand how public policy is developed and implemented.

RESOURCES REQUIRED:

There are no resource implications as the courses are already either required in the Political Science and the Legal Studies programs, or are in regular rotation. Additionally, this will be a niche program for high-achieving students that will likely attract relatively few students each year. As a result, we anticipate that the program can be successfully offered using existing resources. All five members of the Political Science program are involved in providing this program. In addition, all members of the Legal Studies program will also support the program. Sessional instructors will only be used when permanent faculty members are on leave or otherwise unable to cover required courses. We anticipate that initial course enrolments will be small enough that there will be minimal impact on the size of course sections and additional course sections will not be needed.

CONSULTATION AND APPROVAL:

USC for Recommendation: November 2021
Faculty Council: October 2021
USC Review: September 2021
ARC Review: June 2021
Academic Council for recommendation: January 2022
As this is an undergraduate diploma, no external review is required

NEXT STEPS:

- Pending the approval of the Board of Governors, the proposal must then proceed through the following steps:
    - o
    - o Ontario Ministry of Colleges and Universities (for funding purposes)
- The University must also request approval from the Ontario Universities Council on Quality Assurance in order to submit to the Ministry

SUPPORTING REFERENCE MATERIALS:

- New Program Proposal (Bookmarked PDF File)

University of Ontario Institute of Technology
New Undergraduate Program Proposal

Undergraduate Diploma in Public Policy proposal

Name of proposed program:	Public Policy
Degree Designation/Credential:	Undergraduate Diploma
Faculty (where the program will be housed):	Faculty of Social Science and Humanities
Collaborating Faculty (if applicable):	
Program Delivery Location:	Downtown Oshawa campus/online
Collaborating Institution(s) (if applicable):	
Proposed Program Start Date:	September 2022
Proposal Contact:	Alyson E. King
Prepared Date:	April 2021

Table of Contents

1 Introduction

a) Program Abstract

Please provide a brief overview of the proposed program, in 1000 characters or less, including:

- *A clear statement of the purpose of the program*
- *Any program components, such as specializations, pathways, or other offerings in addition to the major*
- *Any distinctive elements, including alternative modes of delivery (including online)*

The Diploma in Public Policy (DPP) is an undergraduate diploma offered by the Faculty of Social Science and Humanities (associated with the Political Science program). Designed for flexibility with two core foundational courses and a wide selection of elective courses that focus on contemporary issues, the program is open to students who are currently enrolled in or who have completed an undergraduate degree in any discipline. Students who have completed an Ontario College diploma with a minimum 80% average may be considered. The program will provide foundational understanding of public policy for the service, corporate, government, non-governmental and/or educational sectors. The program consists of 24 credit hours and may be taken on a part-time or full-time basis. Taken full-time, the program can be completed in two semesters.

b) Background and Rationale

- *Identify what is being proposed and provide an academic rationale for the proposed program*
- *Explain the appropriateness of the program name and degree nomenclature; list any program specializations, pathways, etc.*
- *If applicable, describe the mode of delivery and how it will support students in achieving the learning objectives of the program*
- *Describe the ways in which the program fits into the broader array of program offerings*

- An undergraduate Diploma in Public Policy (DPP) will provide students who have a background in a variety of disciplines with the opportunity to expand their understanding of how policy decisions are made and how policies are developed and implemented. The diploma will be available to Ontario Tech University students who are currently enrolled in an undergraduate degree in any discipline. For example, the Faculty of Engineering and Applied Science has requested an opportunity for their students to undertake studies in Public Policy in order to enhance their students' understanding of the policy implications of technical engineering decisions and to provide additional job opportunities. The proposed program can enhance the education of engineering students to (a) understand the meaning of public policy in a democratic society, and (b) better apply technology in an ethically and socially beneficial and just manner as practicing professionals. Similarly, students in Health Sciences may benefit from delving into the nuances of policy development, especially

in regards to public health. The undergraduate diploma in Public Policy will also be available to students who have completed an undergraduate degree in any discipline at other universities.

- By offering the DPP both concurrently with another degree program and consecutively after completing an undergraduate degree or college diploma, we will expand the opportunities for students from Ontario Tech and other universities or colleges to take the program on a timetable that suits their own needs. If taken concurrently with an undergraduate degree program, it will add an additional one or two semesters to their time at Ontario Tech. If taken consecutively after receiving an undergraduate degree, it can be undertaken on either a part-time or full-time basis. Taken full-time, the program can be completed in two semesters.

- Students who are enrolled in or who have completed an undergraduate degree in Political Science will be required to follow a modified program map in order to avoid duplication of courses and course material. The modified program map will include undergraduate courses in Legal Studies and require higher level research or applied studies in public policy, such as an Honours Thesis, Directed Research or Independent Study, or a policy-related Practicum placement with a community partner.

- The name and nomenclature is appropriate because it is an undergraduate program that does not require the same number of courses as a degree program, while still expecting students to have the capacity for university-level studies.

- The mode of delivery will be the same as for the existing Political Science BA program. Courses have normally been offered primarily as face-to-face, but with the evolving nature of university course offerings, some courses may be offered as hybrid or fully online. The program as a whole is not intended to be offered fully online. A fully online program would require additional resources to hire instructors to teach online courses.

- The DPP builds on the existing Political Science BA program, which contains a blend of political science and policy-oriented courses. It addresses an identified need for courses on public policy issues and policy development to be available to students outside of the Political Science program. The program map for the Diploma in Public Policy differs from the Minor in Political Science in its focus on policy-oriented courses and opportunity to include courses in Legal Studies.

c) Mission, Vision, Strategic Plan, and Strategic Mandate Agreement

- *Describe how the program contributes to the University's Mission and Vision*
- *Explain how the program aligns with the goals and priorities outlined in the Faculty's(ies') and University's Strategic Plans*

- *Identify how the program fits within one or more areas of strength or growth in Ontario Tech University's Strategic Mandate Agreement*

This proposed program fits with the newly created Vision, Mission and Values statements by allowing students who are studying or who have graduated from disciplines including Engineering, Health Science, Information Technology, Science, and the like, to learn about and understand how public policy is developed and implemented.

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

"Mission: We equip future leaders to solve complex problems." In particular, the DPP program will assist with the mission of *"Learning re-imagined: Co-creating knowledge by adapting to the ever-changing educational landscape through the provision of flexible and dynamic learning and research opportunities*."

"Values: Ontario Tech is a place where every person belongs and is free to grow their skillsets and mindsets." In particular, the DPP program meets the value goal of: "*Intellectual resilience: Pursuing excellence in all that we do by respecting different points of view and engaging constructively when exploring ideas and advancing knowledge*."

The proposed DPP will provide the opportunity for students from any discipline to develop their knowledge about public policy and learn to apply that knowledge to their major field of interest. It builds Ontario Tech's offerings of lifelong learning opportunities because it will be available to both current Ontario Tech students and graduates from other universities. In doing so, it also will allow for cross-fertilization of ideas from students who have studied in a variety of programs and institutions. The proposed DPP allows for an interdisciplinary approach to understanding public policy by integrating courses in Political Science and Legal Studies with the courses in policy development and issues. Furthermore, being open to students from any discipline means that new ideas will naturally be brought into the discussions about policy issues and will introduce new students to Ontario Tech University.

In terms of Ontario Tech University's *Strategic Mandate Agreement*, the DPP program will add to students' skillsets to be better able to understand and work within governmental policy regimes. All industries operate within the context of government policies and regulation. Understanding the fundamental role of public policy opens new opportunities for career growth.

d) Student Demand

- *Provide evidence of student demand, including number of prospective student inquiries; applications and registrations for similar programs; results from surveys/focus groups of existing students, graduates, or professionals in the field*

- *Include information about domestic vs. international student interest*

- The Faculty of Engineering and Applied Science (FEAS) at Ontario Tech has requested the opportunity for their students to take policy courses, noting that engineering systems and related technologies created by engineers significantly impact society, both positively and negatively. Furthermore, engineers must work within the framework defined by society in terms of policies and laws. Traditional engineering firms have required engineers to be equipped only with the basic science and engineering backgrounds, which are required to perform engineering tasks during the early part of one's career. The majority of knowledge and skills related to public policy and law are gained through experience. Today, the evolving engineering market requires innovative engineering curriculum to cover more than basic engineering science and design. The proposed program can be integrated with engineering education such that students become aware of social implications while gaining knowledge in public policy and law.
- Interest has also been expressed by the Faculty of Health Science for a similar opportunity for their students.

Enrolment Information

- *Provide information regarding enrolment projections and complete Table 1*

The intended applicant pool draws primarily from current Ontario Tech students and recent graduates from any discipline who are seeking to enhance their undergraduate degree with an additional qualification. A secondary pool draws from recent graduates from any university's undergraduate program. There is a demand for higher education programs that can cater to local needs for professional development in the service, corporate, government, non-governmental and educational sectors in Oshawa and the Durham Region.

Every year, we expect to have 5 new students starting the program. Students who have completed an undergraduate degree and enrol in the Diploma consecutively to their degree, may choose to complete the DPP in one year. Students concurrently enrolled in an Ontario Tech undergraduate degree program may take only one or two courses per year, completing the program in four to five years. Because students can complete the program at their own pace, enrolment each semester will vary. At program maturity, we would anticipate a maximum of 20 students. As we expect that this program will primarily attract high-achieving students, we expect attrition rates to be minimal.

e) Societal Need

- *Evidence of the need for graduates of the program and in which fields (within academic, public, and/or private sectors)*
- *Please indicate up to three occupations in which graduates from this proposed program may be employed using the Ontario Job Futures website*
- *For professional programs, a description of the program's congruence with current regulatory requirements*
- *Mention if any employers in the area support the need for this program and include a letter of support as an additional appendix.*

From Ontario Job Futures:

1. **Natural and applied science policy researchers, consultants and program officers** (NOC 4161): Natural and applied science policy researchers, consultants and program officers conduct research, prepare reports, provide consultation and advice and administer programs in a variety of areas related to the natural and applied sciences. They are employed by federal, provincial and municipal governments, computer and office furniture manufacturers, educational institutions, research organizations, consulting firms, environmental and conservation organizations, or they may be self-employed.
2. **Health policy researchers, consultants and program officers** (NOC 4165): Health policy researchers, consultants and program officers conduct research, produce reports and administer health care policies and programs. They are employed by government departments and agencies, consulting establishments, universities, research institutes, hospitals, community agencies, educational institutions, professional associations, non-governmental organizations and international organizations.
3. **Social policy researchers, consultants and program officers** (NOC 4164): Social policy researchers, consultants and program officers conduct research, develop policy and implement or administer programs in areas such as consumer affairs, employment, home economics, immigration, law enforcement, corrections, human rights, housing, labour, family services, foreign aid and international development. They are employed by government departments and agencies, industry, hospitals, educational institutions, consulting establishments, professional associations, research institutes, non-government organizations and international organizations or they may be self-employed.

f) Duplication

- *Describe how the program is distinct from other programs at Ontario Tech. Is it reasonable to anticipate this program might affect enrolment in other related programs? If so, how might this be addressed?*

- *Identify similar or complementary programs offered elsewhere in Ontario in Table 2. Provide additional comment on the justification for this duplication.*

The only other non-degree undergraduate programs in public policy are certificates.

Table 2: List of Similar Programs in Ontario

Institution Name	**Credential Level and Program Name**
Ryerson University	Level 1 **Certificate**: Public Administration & Governance; Level 2 Advanced Certificate: Public Administration & Governance; Public Administration and Governance (Part-Time Only).
Link to Program Web Page: https://www.ryerson.ca/politics/programs/undergraduate/pag/certificate/	
Brief Program Description: a) Level 1 Certificate: Public Administration & Governance. This entry-level Certificate (Level I of the BA program in Public Administration and Governance) is designed for working public sector employees, students aspiring to careers in the public service, and those interested in gaining knowledge about public administration and public policy in Canada. b) Level 2 Advanced Certificate: Public Administration & Governance. Builds on the Level I Certificate to broaden and deepen knowledge about public administration and public policy in Canada. The courses making up this Level/Advanced Certificate are all available through the G. Raymond Chang School of Continuing Education (see calendar description here), however, to graduate with the Advanced Certificate in Public Administration and Governance, students must apply - at any point prior to convocation - through the Office of Undergraduate Admissions for admission to the Public Administration and Governance program. Upon completing this Level/Advanced Certificate, students may continue their studies to earn a degree in Public Administration and Governance. c) Public Administration and Governance (Part-Time Only). Undergraduate degree – students can start with completing the certificates and then decide to do the degree.	
What differentiates the new program from this existing program: Ryerson's certificate program is primarily a continuing education program that does not require prior university studies. Ontario Tech's DPP is designed for students who are currently enrolled in or who have completed an undergraduate degree in any discipline.	
Institution Name	**Credential Level and Program Name**
University of Guelph	Certificate in Public Policy and Administration
Link to Program Web Page: https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c11/c11-certdip-pubpolicy.shtml	

Brief Program Description:
Certificate in Public Policy and Administration, 5 courses: "designed to provide a solid base in key concepts and foundations of Canadian government, policy and administration by bringing together a number of Canadian political science and public policy courses. This certificate will be of interest to you if you are an undergraduate student or are currently working or seeking employment in the public sector or quasi-public sector. Online."

What differentiates the new program from this existing program:
The DPP is a diploma (rather than a certificate) that requires 8 courses (24 credit hours) and allows for additional depth in studying public policy.

Institution Name	Credential Level and Program Name
York University	Undergraduate Certificate, Public Policy Analysis

Link to Program Web Page: https://futurestudents.yorku.ca/program/certificates/public-policy-analysis

Brief Program Description:
To provide students with skills linking theory to practice; develop an understanding of financing of public policy programs and their implementation; and examine the impact of social and economic policies. Students have the flexibility to choose from courses from various areas of public policy according to their interests. The Professional Certificate in Public Policy Analysis will appeal to students who are interested in a career in government or the not-for-profit sector. The certificate program provides an alternative to a full degree or minor program in the area of Public Policy Analysis.
Open to the following applicants: 1. current York students who are not in the Public Administration degree program, or 2. new applicants to York who hold a university degree in a discipline other than public administration.

What differentiates the new program from this existing program:
The York program is certificate program rather than a diploma. The types of courses offered are different.

Institution Name	Credential Level and Program Name
Athabasca University	online University Certificate, Public Administration

Link to Program Web Page:

Brief Program Description:
"The University Certificate in Public Administration is designed for students who want to learn about administration at the municipal, provincial, and federal levels of government, as well as non profit and quasi governmental organizations. Students will take courses in such areas as communications, public finance, budgeting, economics, public policy, legal studies, human resources management, industrial relations, and indigenous studies. Students may find this certificate useful to enter or re-enter the job market, to change careers, or for promotion in the public sector and/or non profit sector, or to provide a foundation for further studies.

"One year of full-time study, or work at your own pace and take as long as you need. There is no time limit for completion. With additional study, or credit for work experience, credit earned in

this certificate program may be transferred into the Bachelor of Professional Arts in Governance, Law and Management program."
What differentiates the new program from this existing program: The Athabasca course requires 30 credits, while the DPP requires 24 credits and allows for quicker completion times. The courses in the DPP are more policy-oriented.

2 Program Requirements

a) Admission Requirements

- *Outline the formal admission requirements; explain how these are appropriate for the program learning outcomes: How will they help to ensure students are successful? How do they align with the learning outcomes of the program?*
- *Explain any additional requirements for admission to the program such as special language, portfolio, etc. (and how the program recognizes prior work or learning experience, if applicable)*
- *If this is not a direct-entry program, please explain*

Admission is competitive. The specific average or standing required for admission varies from year to year. Students are selected by taking into consideration a wide range of criteria including school marks, distribution of subjects taken, and performance in subjects relevant to the academic program. Possession of the minimum requirements does not guarantee acceptance. Preference will be given to applicants with the best qualifications.

1. Current enrolment in an undergraduate degree program at Ontario Tech University, or a bachelor's degree (conferred) in any discipline.
2. Minimum grade point average of 3.0 (B, 73-76%) in the final two years of study or overall.
3. Statement of interest (max. 250 words) stating reason(s) for undertaking the program and career objectives.
4. English facility requirements, where applicable (see https://admissions.ontariotechu.ca/english-language-proficiency/index.php)
5. Students currently enrolled in the Political Science BA program at Ontario Tech must meet with the Program Director (or delegate) for permission and guidance prior to enrolling in the DPP.
6. Once admitted, all students must meet with the Program Director (or delegate) for guidance in planning their course map.

The statement of interest is intended to assist the Program Director (or delegate) in ensuring that the applicant is both an appropriate fit for the program and will not be disappointed by the program design and offerings. Meeting with the Program Director (or delegate) prior to beginning their studies will ensure that the courses selected will meet students' objectives in enrolling in the program and can be successful.

This is an undergraduate diploma program that is intended to supplement studies in students' major program of study by being undertaken concurrently or consecutively with an undergraduate degree program. Students who have completed an Ontario College diploma with a minimum 80% average may be considered.

b) Program Learning Outcomes and Assessment of Student Knowledge

- *In Table 3 below, please describe what the student will know or be able to do (knowledge, methodologies, and skills) by the end of the program and indicate how that knowledge or skill will be demonstrated*
- *An example has been provided in purple in the first row and can be removed.*
- ***Connect with the Academic Planning Officer in CIQE (ciqe@ontariotechu.ca) early in the program development to review learning outcomes***.

Degree Level Expectations are set by the Quality Council of Ontario and should not be modified. For the list of and more information on these expectations, including a detailed description, visit their website.

Table 3: Program Learning Outcomes

Program Learning Outcomes By the end of the program, students graduating will be able to… (normally 6-8 outcomes per program with 12 being the maximum)	Degree Level Expectations (list all that apply; you must align with each expectation at least once)	Relevant courses (provide course code and course title)	Assessment of Learning Outcomes (e.g. test, rubric, self-assessment, etc.)
• Develop and apply specific skills required in the field of policy development, including advocacy, proposal writing, policy analysis, and conflict management. • Demonstrate awareness and understanding of relevant research methodologies, an ability to conduct and interpret research related to policy decisions and development.	Depth and Breadth of Knowledge Knowledge of methodologies	CORE COURSES: *POSC 1200U* Introduction to Democracy in Theory & Practice *POSC 2200U* Fundamentals of Policy Theory ELECTIVE COURSES: *LGLS 1000U* Foundations of Legal Studies *POSC 2502U* Community Development Policy *SSCI 2900U* Research Methods	• Test(s), written assignments, take-home or in-class exam • Presentations, research essay on assigned topics, literature reviews

		POSC 3000U Policy, Democracy and Governance	
• Apply knowledge of the philosophical, societal and historical issues which impact policy development & implementation. • Communicate effectively using oral, written and nonverbal skills necessary for professionals	Application of knowledge Communication skills	CORE COURSES: *POSC 1200U* Introduction to Democracy in Theory & Practice *POSC 2200U* Fundamentals of Policy Theory ELECTIVE COURSES: *POSC 2502U* Community Development Policy *POSC 3303U* Policies for Sustainability *POSC 3501U* Poverty and Public Policy POSC 3600U Politics of Education in Canada *POSC 3601U* Politics of Health *POSC 3603U* Politics of Housing *POSC 3800U* Principles of Economics and Political Economy	• Data analysis • Case studies • Policy analyses
• Demonstrate awareness of multiple disciplines that inform approaches to public policy & policy development.	Awareness of limits of knowledge	CORE COURSES: *POSC 1200U* Introduction to Democracy in Theory & Practice *POSC 2200U* Fundamentals of Policy Theory ELECTIVE COURSES: *POSC 3000U* Policy, Democracy and Governance *POSC 4010U* Policy Development	• Literature reviews • Take Home exams • Annotated bibliographies

		LGLS 4070U Public Governance through Law	
• Engage in independent activity, including creation of policy and/or programs.	Autonomy and professional capacity	CORE COURSES: *POSC 1200U* Introduction to Democracy in Theory & Practice *POSC 2200U* Fundamentals of Policy Theory ELECTIVE COURSES: *POSC 3000U* Policy, Democracy and Governance *POSC 2502U* Community Development Policy	• Student journal or blog work • Online presentations • Wiki • Poster presentations • City Idea Lab idea showcase

- *Selecting a few examples from above, explain in detail how the program design and requirements support the attainment of the Program Learning Outcomes*
- *With assistance from the Academic Planning Officer in CIQE (ciqe@ontariotechu.ca), please provide further details on the Assessment of the Program Learning Outcomes, as outlined in the Quality Council's Quality Assurance Framework Section 2.1.6 - Assessment of Teaching and Learning:*
  - *Appropriateness of the proposed methods for the assessment of student achievement of the intended program learning outcomes and Degree Level Expectations (How will students demonstrate they have learned and can do what we expect them to by the end of the program?).*
  - *Completeness of plans for documenting and demonstrating the level of performance of students, consistent with the Degree Level Expectations (How will the effectiveness of the program be assessed?)*

Although the elective courses provide students with a broad range of choices, they all meet the Degree and Program Learning Outcomes because they are part of well-established degree programs. Assessment of student learning will occur using a variety of methods in both the core and elective courses. For example, students will "Apply knowledge of the philosophical, societal and historical issues which impact policy development & implementation" by conducting research and writing a traditional research essay about democratic ideas and their impact on social norms and their related policies in the core course, POSC 1200. In the other core course, POSC 2200U, students will conduct policy analyses and engage in oral presentations about policy development and implementation.

The range of elective courses will provide students the opportunity to enrol in foundational and upper year courses in Political Science and Legal Studies. All of the listed courses are core to the existing Political Science and/or Legal Studies programs, and include policy-related content. Students will have the opportunity to choose City Idea Lab courses (such as POSC 2502U) that engage students in working with City of Oshawa staff in working to find solutions for current challenges in Oshawa. The City may implement feasible projects, which will allow students to see their work in action. Other courses use Wikis, blogs, infographics, video presentations and posters to teach students how to communicate their research in accessible language and formats. Ontario Tech's new Learning Management System (LMS) is Canvas. Canvas is a platform that provides robust ways to communicate and engage with students, while also tracking their progress in accomplishing learning outcomes.

The program is composed of a subset of existing Political Science and Legal Studies courses. The program map will be regularly reviewed by both programs to ensure that the course options continue to be relevant and to address any gaps that become apparent. Admissions to the program will be handled by the Political Science program committee, with consultations with the Legal Studies program committee on an as-needed basis. Effectiveness of the program will be assess via course evaluations and scheduled program reviews as required by the Faculty.

c) Program Structure and Content

- *Describe the requirements and structure of the program. Is it full-time/part-time? Is this an online or partially online program? What are the unique curriculum or program innovations or creative components in this program?*
- *Address how the programs structure will help students to meet the program learning outcomes and Degree Level Expectations*

The Diploma in Public Policy (DPP) is an undergraduate diploma offered by the Faculty of Social Science and Humanities (Political Science program). The program consists of 24 credit hours. This program may be taken on a part-time or full-time basis. Taken full-time, the program can be completed in two semesters. The program is open to students who are currently enrolled in or who have completed an undergraduate degree in any discipline. Although the program is not designed as an online program, some courses may be offered online as determined by program and instructor needs.

Students who are enrolled in or who have completed an undergraduate degree in Political Science (especially at Ontario Tech University) will be required to follow a modified program map in order to avoid duplication of courses and course material. The modified program map will include undergraduate courses in Legal Studies and require higher-level research or applied studies in public policy, such as an Honours Thesis,

Directed Research or Independent Study, or a policy-related Practicum placement with a community partner.

The program is innovative in that it allows for students currently enrolled in any Ontario Tech undergraduate program to concurrently take the DPP and it allows graduates of undergraduate programs from other universities to consecutively enroll in the program. Flexibility is built into the program by allowing students to enroll on either a part-time or full-time basis. In turn, this flexibility may allow those already in the workforce to undertake the DPP.

- *Describe the ways in which the curriculum addresses the current state of the discipline*

The curriculum introduces students to a range of issues exploring how policy is created, designed, and implemented in Canada. Students take two required courses that introduce them to democratic theories and theories about policy design and implementation. Students then build on and tailor their knowledge by choosing from two groups of courses: Group A on broad issues (e.g., Canadian politics, global politics, and sustainable communities) and Group B on thematic issues (e.g., inequality and development, rural or urban communities, technology, health, housing, and education). This format will allow students to choose courses that enhance their existing disciplinary knowledge with an understanding of policy development and implementation. Currently, there are few existing programs in Canada that allow students in other disciplines to undertake studies in public policy without enrolling in a graduate program. Offering an undergraduate diploma program reduces financial and time commitments while affording students an opportunity to build their skills. Doing so may also help students to determine if they wish to pursue further studies in public policy.

- *Is there an experiential learning component (e.g. workplace learning, co-op, internship, field placements, service learning, mandatory professional practice) to the program? If yes, please describe this component in 2500 words or less. Include confirmed partners, duration of the experiential learning component(s), and projected number of placements (where applicable)*

High achieving final year students from programs outside FSSH and Ontario Tech will have the opportunity to participate in the existing FSSH experiential learning program with a minimum GPA and permission of the instructor. Topics must be on a policy-related issue.

Students currently enrolled in the FSSH Political Science program will follow a modified program map. These students will be required to explore a policy-related topic in their Experiential Learning course(s) for it to count towards the DPP.

Details about the FSSH Experiential Learning program:
https://socialscienceandhumanities.ontariotechu.ca/experiential-learning/index.php

- *Describe how the potential need to provide accessibility accommodations has been considered in the development of this program*

The program will follow established Ontario Tech University protocols for accessibility:
https://studentlife.ontariotechu.ca/services/accessibility/index.php

d) Calendar Copy with Program Map(s)

- *Provide, as Appendix A, a clear and full calendar copy. Please use the template provided in Appendix A to create the Calendar Copy for the new program. This template ensures consistency across all programs in the Academic Calendar*
  - *Note that pathway (Bridge/Advanced Entry) programs will require a separate, usually shorter, section in the Calendar; please be sure to include one entry for each program type. Pathway Calendar example*
  - *New Minors, Co-op programs, or other alternatives have additional Calendar entries. Should you be including these items, please contact CIQE for more information and templates*
  - *If the program is to be accredited, include with this Appendix the accreditation tables, if available*
- *Provide, as Appendix B, a full list of the all courses included in the program including course numbers, titles, and descriptions. Please indicate clearly whether they are new/existing. Include full course proposals for new courses, and the most recent course syllabi for existing courses. If you are making changes to existing courses, include instead a course change form.*

Please see Appendix A for proposed calendar copy.

Please see Appendix B for a full list of the course numbers and titles with course syllabi. **No new courses are required**.

3 Consultation

- *Describe the expected impact of the new program on the nature and quality of other programs delivered by the home and collaborating Faculty(ies) and any expected impact on programs offered by other Faculties*
- *Outline the process of consultation with the Deans of Faculties that will be implicated or affected by the creation of the proposed program*
- *Provide letters of support for the program from Deans at Ontario Tech and/or from other institutions/partners*

Early consultations were held with the Faculty of Engineering and Applied Science regarding allowing Engineering students to take courses in public policy. The early plans focussed on an Engineering and Public Policy (EPP) specialization. Subsequent discussions with CIQE led to the proposed Diploma in Public Policy (DPP) because it allows students in any Faculty to take the program without creating separate specializations for each Faculty. The decision to create an undergraduate diploma program also allowed FSSH to contribute to the university's goal of improving Lifelong Learning opportunities.

Does this Program/Change contain any Indigenous content? ☐ Yes ☒ No ☐ Unsure
For more information on how Indigenous content is defined at Ontario Tech University and how to consult with the Indigenous Education Advisory Circle (IEAC), please refer to the Protocol for Consultation with the Indigenous Education Advisory Circle.

Has the IEAC been contacted ☐ Yes ☒ No

If yes, when?

What was the advice you received from the IEAC, and how has it been included in your proposal?

Did the IEAC ask you to return the proposal to them for review? ☐ Yes ☐ No

If yes, have they completed their review? ☐ Yes ☐ No ☐ N/A

4 Resource Requirements

a) General Resource Considerations

- *Note here if this new program may impact significant enrolment agreements with the Faculty/Provost's office.*
- *Indicate if the new program will affect any existing agreements with other institutions, or will require the creation of a new agreement. Please consult with CIQE (ciqe@uoit.ca) regarding any implications to existing or new agreements.*

There are no resource implications as the courses are already either required in the Political Science and the Legal Studies programs, or are in regular rotation.

b) Faculty Members - Current and New Faculty Requirements

- *Brief statement to provide evidence of the participation of a sufficient number and quality of faculty who will actively participate in the delivery of the program*
- *The role of any sessional faculty*
- *The provision of supervision of experiential learning opportunities*
- *The plan to provide additional faculty resources to support the program, if needed*
- *Complete Appendix C, detailing the list of faculty committed to the program (template in Appendix) and provide any additional details, if necessary*
-

All five members of the Political Science program are involved in providing this program: Dr. Scott Aquanno, Dr. Ruth Felder, Dr. Shanti Fernando, Dr. Alyson E. King, and Dr. Tim MacNeill. In addition, all members of the Legal Studies program will also support the program: Dr. Rachel Ariss, Dr. Jen Rinaldi, Dr. Thomas McMorrow, Dr. Andrea Slane, Dr. Sasha Baglay and Dr. Natalie Oman. Sessional instructors will only be used when permanent faculty members are on leave or otherwise unable to cover required courses. All courses in the program are already existing courses included in the Political Science and Legal Studies programs.

We anticipate that initial course enrolments will be small enough that there will be minimal impact on the size of course sections and additional course sections will not be needed.

See Appendix C for the complete details of supporting faculty members.

c) Additional academic and non-academic human resources

- *Give details regarding the nature and level of Sessional Instructor and TA support required by the program, the level of administrative and academic advising support, etc.*
- *Please describe the plan to provide additional resources to support the program, if needed*

No additional resources will be needed.

d) Existing student supports

All undergraduate students have access to an extensive support system that ensures a quality student experience. In addition to the outlined services below, students may also take advantage of the Campus Childcare Centre, Campus Bookstores, Housing and Living Resources, as well as the Student Union. Further information can be found at: http://studentlife.uoit.ca/

Faculty-Specific Support

Academic Advising

The mission of the Academic Advising unit in the Faculty of Social Science and Humanities is to provide a high level of accessible support to students, on an ongoing basis, as they navigate the academic environment. Through meaningful multimodal communication, advisors foster the learning and development of the whole student, empowering responsible and informed decision-making towards the achievement of their individual goals. Academic Advisors maintain an environment of integrity, inclusion, and respect where all students feel supported based upon their individual set of needs. Academic Advisors are available by appointment.

Student Life

Student Learning Centre

The Student Learning Centre fosters a high level of academic excellence in the UOIT community by working with all UOIT students, undergraduate and graduate, to achieve educational success. Foundational knowledge and prerequisite skills are essential to all university level courses, and competency with these skills is vital for strong academic performance. The subject specialists offer support services in mathematics, writing, study skills, ESL and physics. With the additional support of peer tutors and workshops, the Centre can further accommodate the needs of a specific course or program. http://studentlife.uoit.ca/student-learning/

Student Accessibility Services

The staff work as a collaborative team to ensure students with disabilities have equal opportunities for academic success. The SAS operates under the Ontario Human Rights Code (OHRC) and the Accessibility for Ontarians with Disabilities Act (AODA). Services are provided for students with documented disabilities. Accommodation supports include but are not limited to:

- Adaptive technology training;
- Alternative format course material;
- Learning skills support;
- Testing support; and
- Transition support for incoming students

Careers and Internships

The Career Centre offers comprehensive career service assistance and a variety of valuable resources to help students along their career paths:

- Assistance with creating effective job-search documents;
- Career counselling;
- Interview preparation;
- Job market information; and
- Job search strategies

A variety of events hosted on campus during the academic year including employer information and networking sessions, job fairs, and interviews conducted by leading employers.

Student Engagement and Equity

The Student Engagement and Equity supports students' successful transition into the university and provides opportunities for them develop your leadership and professional skills throughout their university career. Services provided through Student Engagement and Equity include:

- Orientation and events through first year;
- Specialized programming for first generation, graduate, indigenous, international, mature, online, transfer, and diploma-to-degree pathway students;
- Peer mentoring to help students through first year;
- Equity and inclusivity programming;
- Opportunities to grow and develop leadership skills through the Ambassador program; and
- Assistance and advice for living off campus

Student Mental Health Services

Student Mental Health Services helps students learn how to better manage the pressures of student life. Students can:

- Attend a drop-in session;
- Participate in events and activities that promote positive health and well-being;
- Work with a mental health professional to address concerns;
- Contact the Student Lifeline for immediate help and assistance;
- Access tools and resources online to learn about mental health and how to maintain good health and wellness; and
- Get answers to frequently asked questions about mental health

Student Mental Health Services offers short-term counselling and therapy services to students. Students in distress will also be provided support and counselling as needed. There is no cost and services are confidential. For students who need long-term counselling support or specialized mental health services, UOIT will provide referrals to assist the student in accessing resources in the local community or in the student's home community.

Athletics and Recreation Faculties

UOIT offers a number of recreation facilities and fitness opportunities to meet all lifestyles and needs. On-campus facilities include the state-of-the-art FLEX Fitness Centre which overlooks Oshawa Creek, five gymnasiums, a 200-metre indoor track, two aerobic/dance studios, the

Campus Ice Centre, Campus Fieldhouse, a soccer pitch, a fastball diamond, squash courts and an indoor golf-training centre.

Campus Health Centre

The Campus Health Centre provides assistance in numerous confidential health-care options including:

- A medical clinic with daily access to physician and nursing staff;
- Complementary Health Services featuring acupuncture, chiropractic, custom orthotics, massage therapy, nutritional counselling, and physical therapy;
- Treatment of disease, illness, and injury;
- Allergy injections, immunizations, and influenza injections;
- An on-site laboratory (blood work, STI testing, throat swabs, etc.); and
- Gynaecological health-care and prescriptions

Student Awards and Financial Aid

Student Awards and Financial Aid (SAFA) is dedicated to helping students understand the variety of options available to finance their education. Budgeting and financial planning are essential to their success and Student Awards and Financial Aid is on hand to help create the right financial plan. Financial assistance can be in the form of bursaries, employment (both on-campus and off), parental resources, scholarships, student lines of credit and the Ontario Student Assistance Program (OSAP).

Information Technology Resources

IT Services strives to provide quality services to students at UOIT. To support these objectives, the following components are included:

- Wireless network;
- Wired network;
- IT Service Desk;
- General workstations; and
- Printing services

Wireless network
Wireless internet connection is available in public areas and open-air locations around the UOIT campus where students congregate (North Oshawa and Downtown locations).

Wired network
To ensure the success of the technology-enriched learning environment, a comprehensive data network has been installed on campus. This includes a network drops in lecture halls and designated areas as well as network drops for each residence suite.

UOIT students benefit from networked classrooms and learning spaces. Each ergonomically-designed space has data network connection access and electrical connections to ensure battery regeneration. In addition, classrooms include electronic projection equipment and full multimedia support.

IT Service Desk
The IT Service Desk is equipped with certified technicians and experienced IT professionals offering technical support services on a drop-in, call-in or email basis.

GUWs
UOIT undergraduate students are able to use general workstations available at the library and have access to BYOD TELE model course-specific software.

Printing services
Printing services are available to students in the following areas: labs, classrooms, study common areas, the Learning Commons and the Library. All UOIT students receive print credits every year, more Printpacks can be purchased through the Campus Bookstore if students require additional printing services.

Teaching & Learning Centre
The mission of the Teaching and Learning Centre (TLC) at Ontario Tech is to empower faculty to reach their potential as educators and to create a culture where effective teaching is valued. We champion the scholarship of teaching and implementation of pedagogy. We create valuable teaching and learning professional development experiences. We move UOIT towards being a leader in teaching excellence, ultimately leading to greater student success.

The TLC provides faculty with a range of tools and facilities to assist them in providing a rich learning experience for students. Experts at the TLC provide support in various areas including curriculum development, multimedia design, learning technology and in the overall improvement of teaching practice.

In addition, the TLC funds teaching-related projects from the Teaching Innovation Fund (TIF) for proposals by faculty members aimed at developing new methods in teaching and learning. The TLC facilitates teaching awards at the University and supports faculty in their application for external awards and funding opportunities that focus on teaching and learning.

e) Physical resource requirements

- *Please attach a report, as Appendix E, from the Library regarding existing library holdings and support for student learning*
- *Address any space/infrastructure requirements including information technology, laboratory space, equipment, etc. If new space is required, please complete Table 4; otherwise, please remove this Table*
- *Ideally, please provide information on the change in the number of faculty, students, administrative staff, etc. as well as information on changes in equipment and activities (additional space; the renovation of existing space; or will the current space allocation accommodate the new program)*
- *The plan to provide additional resources to support the program, if needed*

No additional resources will be needed.

f) Resource Summary

Provide a brief statement of the funding requirements and the rationale.

No additional resources are required because (a) all courses are pre-existing and are offered regularly; and, (b) this will be a niche program for high-achieving students that will likely attract relatively few students each year. As a result, we anticipate that the program can be successfully offered using existing resources.

Human Resource Requirements

Are additional faculty required to be able to offer this program? ☐ Yes ☒ No

If yes, what year will the faculty hire be required, and are there additional criteria associated with the hiring requirement (e.g. enrolment levels)?

Are additional staff required to be able to offer this program? ☐ Yes ☒ No

If yes, please outline what year the staff hire will be required and any additional criteria associated with the hiring requirement:

Space Requirements

Are there additional space requirements specific to being able to successfully launch this program? ☐ Yes ☒ No

If yes, please provide additional details:

Technology Requirements

Are there additional technology requirements specific to being able to successfully launch this program? ☐ Yes ☒ No

If yes, please provide additional details:

Additional Resource Requirements

Are there additional resource requirements not specified above that are required to successfully launch this program? If so, please outline them below:

None.

The resource requirements outlined above have been reviewed and approved by the Academic Resource Committee (ARC): 29 June 2021
(date of review)

5 Quality and Other Indicators

- *Please describe the appropriateness of the collective faculty expertise to contribute substantively to the proposed program; what areas of faculty strength and expertise, innovation, and scholarly record will contribute to the quality of the program and student experience*

- *Please explain how the program structure and faculty research will ensure the intellectual quality of the student experience*

Collectively, the faculty members involved in the DPP program have active research programs and teaching interests that will facilitate the critical learning about issues in public policy that is needed by undergraduates as they prepare to enter the workforce. The members of the Political Science program have experience in interdisciplinary research and/or teaching in public policy, including racism, gender, immigration and refugee policy, labour, anti-poverty, education policy, science and technology, sustainability, international development, international political economy, financial and monetary policy, and mental health. Similarly, the members of the Legal Studies program have teaching and research foci related to ethics, Indigenous rights and treaties, health care (e.g., midwifery and reproductive technologies), feminist legal theory, institutional violence, intellectual property, cyber crime and risk, education law, end-of-life decisions, informed consent, and international law. The range of expertise ensures that students will have the opportunity to learn from scholars committed to teaching and research that is informed by social justice perspectives.

The program is structured to build knowledge from introductory information about how policy is designed (Fundamentals of Policy Theory) and the role of well-designed policy in an effective democracy (Introduction to Democracy in Theory & Practice). Subsequent courses progressively introduce specialized topics such as: Technology, Politics & Social Theory; the Politics of Housing; Urban Communities; Poverty and Public Policy; and, Health Policy.

The scholarly and teaching record of the faculty members involved in this program are well-situated to provide a rigorous and high quality learning experience for students looking to expand their knowledge about public policy.

APPENDICES

Please include at minimum the below. Additional Appendices may be added, as appropriate.

A. Calendar Copy with Program Maps (Accreditation tables if available)
B. List of Program Courses, New Course Proposals, Required Course Changes, Course Syllabi for Existing Courses
C. Detailed Listing of Faculty Committed to the Program
D. Library Report

BOARD REPORT

ACTION REQUESTED:

Recommendation ☐
Decision ☒
Discussion/Direction ☐
Information ☐

DATE: March 10, 2022

FROM: Academic Council

SUBJECT: New Program Proposal – Bachelor of Engineering and Bachelor of Engineering and Management in Energy Engineering (Honours)

MANDATE:
In accordance with Section a) of the Undergraduate Studies Committee (USC) Terms of Reference, USC has the responsibility "to examine proposals for new undergraduate degree programs and major changes to existing programs and to recommend their approval, as appropriate, to the Academic Council".

And,

In accordance with Article 1.4 of By-Law Number 2 of the University of Ontario Institute of Technology "Academic Council will make recommendations to the Board on matters including: a. the establishment or termination of degree programs".

MOTION FOR CONSIDERATION:
That pursuant to the recommendation of Academic Council, the Board of Governors hereby approves the Bachelor of Engineering and Bachelor of Engineering and Management in Energy Engineering, as presented.

BACKGROUND/CONTEXT & RATIONALE:
In support of Ontario Tech University's Strategic Plan and its reputation as an emerging leader in career-ready education, with collaborative and pragmatic research, the Faculty of Energy Systems and Nuclear Science & Faculty of Engineering and Applied Science are proposing the Bachelor of Engineering and Bachelor of Engineering and Management in Energy Engineering. This program will meet the growing needs of the energy industry locally and graduates will be prepared to work across the energy sector and support the energy transition in Ontario, Canada, and globally. The program is designed to leverage Ontario Tech's strengths and leadership in energy, with minimal financial and resource requirements.

The program covers different aspects of the energy sector, including hydrogen energy, nuclear, renewables, energy storage, sustainable development, etc. It will eventually allow students to do a minor in sustainability. Similar to all other Engineering programs

at Ontario Tech, students will also have an opportunity to enroll in the energy engineering and management program and develop management skills to prepare them for leadership in the energy industry.

Energy engineering is multidisciplinary in nature and requires the integration of mechanical engineering, electrical engineering, nuclear engineering, renewable energy engineering, etc. Although the proposed program's name, Energy Engineering, reflects the broad field of energy, it will focus on some critical subject areas, such as renewable energies, hydrogen and fuel cells, energy storage, and smart grid, which will attract students with a wide range of interests. The program offers a variety of elective courses to give students the opportunity to learn specialized subjects, which may lead in future to new specializations in various areas, including sustainability engineering.

The program will be delivered with an emphasis on hands-on experience and experiential learning, similar to other engineering programs at Ontario Tech. It will also have courses delivered in hybrid mode, while the majority of the program's courses will be in conventional form. Furthermore, it is also planned to offer some online and hybrid elective courses to enrich the program.

The proposed Energy Engineering program differs considerably from the existing specializations in Mechanical Engineering and Nuclear Engineering in that a full suite of energy courses is provided through the new program. The establishment of a stand-alone Energy Engineering program has been identified as a strategic priority of Ontario Tech University. Ontario Tech has excellent core faculty members who are specialized in the area of energy. The program will also contribute significantly to provincial, national and global objectives of transitioning to low-carbon economies and striving for 'net-zero' emissions.

RESOURCES REQUIRED:
The initial two years of the program are expected to have students readily incorporated into existing (common) courses. New courses will be taught by existing faculty. As the program grows, e.g., more than 50 additional students, new faculty may be needed for additional classes of existing courses. This may require new hires; however, this is not anticipated for at least four to five years. Currently, there are sufficient faculty members to cover third- and fourth-year courses.

Existing student services could accommodate the increased number of students, especially for the first four years as additional student numbers are anticipated to stay below 50. Additional TA hours will likely be required in those common courses joined by Energy Engineering students. Similarly, there will be a marginal increase in laboratory requirements (e.g., consumables) for those courses with a laboratory component

CONSULTATION AND APPROVAL:
USC for Recommendation: December 2021 Engineering
Faculty Council: 6 December 2021 FESNS Faculty Council: 16
December 2021 ARC Review: May 2021
Academic Council for Recommendation: January 2022

NEXT STEPS:

- Pending the approval of Academic Council, this proposal must then proceed through the following steps:
    -
    - Ontario Universities Council on Quality Assurance
    - Ontario Ministry of Colleges and Universities

SUPPORTING REFERENCE MATERIALS:

- New Program Proposal
- Reports from External Review

New Undergraduate Program Proposal

Name of proposed program:	Energy Engineering/Energy Engineering & Management
Degree Designation/Credential:	BEng/BEng and Management
Faculty (where the program will be housed):	FEAS and FESNS
Collaborating Faculty (if applicable):	
Program Delivery Location:	North Oshawa
Collaborating Institution(s) (if applicable):	N/A
Proposed Program Start Date:	September 2022
Proposal Contact:	Dr. Hossam Kishawy (Dean, FEAS)
Submission Date:	December, 2021
Approved by Dean: **(signature and date)**	

Table of Contents

1 Introduction

a) Program Abstract

Please provide a brief overview of the proposed program, in 1000 characters or less (including spaces), including:

- *A clear statement of the purpose of the program*
- *Any program components, such as specializations, pathways, or other offerings in addition to the major*
- *Any distinctive elements, including alternative modes of delivery (including online)*

In support of Ontario Tech University's Strategic Plan and its reputation as an emerging leader in career-ready education, with collaborative and pragmatic research, this Energy Engineering program will meet the growing needs of the energy industry locally and globally. Graduates are expected to have strong technical skills, an appreciation for the value of multidisciplinary approaches, and robust communication skills. They will be prepared to work across the energy sector and support the energy transition in Ontario, Canada and globally. The program is designed to leverage Ontario Tech's strengths and leadership in energy, with minimal financial and resource requirements.

The program covers different aspects of the energy sector, including hydrogen energy, nuclear, renewables, energy storage, sustainable development, etc. It will eventually allow students to do a minor in sustainability. Similar to all other Engineering programs at Ontario Tech, students will also have an opportunity to enroll in the energy engineering and management program and develop management skills to prepare them for leadership in the energy industry. This program will be the same format as other 'and management' options where students take an additional year of business courses between Years 3 and 4 of their engineering program.

The proposed program is unique as it capitalizes on the University's leadership in hydrogen energy, energy storage, nuclear and other recognized expertise.

b) Background and Rationale

- *Identify what is being proposed and provide an academic rationale for the proposed program*
- *Explain the appropriateness of the program name and degree nomenclature; list any program specializations, pathways, etc.* ***(QAF 2.1.1c)***
- *Describe the mode of delivery (in-class, hybrid, online) and how it will support students in achieving the Degree Level Expectations and learning objectives of the program* ***(QAF 2.1.5)***
- *Describe the ways in which the program fits into the broader array of program offerings within the Faculty and the University*

Energy is the cornerstone of every civilization. The role of energy in our wellbeing and prosperity cannot be overemphasized. There is a growing demand for energy due to an increasing global population and overall affluence. Energy engineers need to develop, operate and service these systems to meet this growing demand. Energy engineering is multidisciplinary in nature and requires the integration of mechanical engineering, electrical engineering, nuclear engineering, renewable energy engineering, etc.

Although the proposed program's name, Energy Engineering, reflects the broad field of energy, it will focus on some critical subject areas, such as renewable energies, hydrogen and fuel cells, energy storage, smart grid, etc., which will attract students with a wide range of interests. The program offers a variety of elective courses to give students the opportunity to learn specialized subjects, which may lead in future to new specializations in various areas, including sustainability engineering.

The program will be delivered with an emphasis on hands-on experience and experiential learning, similar to other engineering programs at Ontario Tech. It will also have courses delivered in hybrid mode, while the majority of the program's courses will be in conventional form. Furthermore, it is also planned to offer some online and hybrid elective courses to enrich the program.

The proposed Energy Engineering program differs considerably from the existing specializations in Mechanical Engineering and Nuclear Engineering in that a full suite of energy courses is provided through the new program. The Energy option in Mechanical Engineering was intended to provide a limited specialization with a set of five additional courses. Regarding the Bachelor of Technology (BTech) in Sustainable Energy Systems program in Nuclear Engineering, it is general, but technology focussed with some comprehensive coverage on business, communication, regulatory and political aspects of energy supply, local and regional conditions and their impacts, etc. In fact, it was not intended to achieve CEAB accreditation nor to lead to professional engineering licensing of graduates. The proposed Energy Engineering program is fully energy engineering focused and builds upon the experience of the existing programs using the expertise of core faculty members in this field. In particular, the proposed program combines courses in electrical, mechanical, and nuclear engineering in addition to other renewable energy courses and specialized integration courses to offer a set of unique program outcomes. This further allows for better utilization of existing courses across the various programs, in addition to new core courses that allow graduating students to develop the needed skills for the energy engineering sector. There are several courses cross-listed with and slightly modified from existing courses to serve the program. Furthermore, it focuses on some critical subjects, such as renewable energies, hydrogen and fuel cells, energy storage, smart grid, etc., which will attract students with a wide range of interests. Graduates from the proposed program are expected to gain specialized skills needed to design entire energy systems, e.g. remote communities vs rapidly growing megacities, while also having the depth of knowledge to appreciate the complexities of transitioning traditional energy systems to low-carbon, resilient, safe and cost-effective alternatives.

The establishment of a stand-alone Energy Engineering program has been identified as a strategic priority of Ontario Tech University. Ontario Tech has excellent core faculty members who are specialized in the area of energy. The program will also contribute significantly to provincial, national and global objectives of transitioning to low-carbon economies and striving for 'net-zero' emissions.

c) Mission, Vision, Integrated Academic Plan, and Strategic Mandate Agreement (QAF 2.1.1a)

- *Describe how the program contributes to the University's Mission and Vision*
- *Explain how the program aligns with the goals and priorities outlined in the Faculty's(ies') and University's Integrated Academic Plans*
- *Identify how the program fits within one or more areas of strength or growth in Ontario Tech University's Strategic Mandate Agreement*

Ontario Tech's mission is to "Provide superior undergraduate and graduate programs that are technology-enriched and responsive to the needs of students and the evolving workplace." The new program will promote collaboration across disciplinary priorities in career-ready education and collaborative research that is consistent with our University's Strategic Plan and commitment to social, scientific, and economic innovations that create a better Canada and a better world.

As mentioned above, in the profession of engineering, there is a growing need for engineers that have the necessary skills to meet the challenges of solving interdisciplinary problems and have the needed interdisciplinary knowledge to innovate and contribute to a better society. It is imperative that Ontario Tech continues to evolve its programs to meet the needs of the modern workforce. A stand-alone Energy Engineering program will help Ontario Tech to continue to offer programs that students need, and employers want. This is further aligned with Ontario Tech's Strategic Mandate Agreement ("Skills & Job Outcomes") and "Tech with a conscience" priority area.

The proposed Energy Engineering program is unique as it capitalizes on the University's strong leadership in various key areas, including hydrogen energy, energy storage, nuclear and other recognized expertise. In addition, the proximity of the University to a diverse range of energy systems and applications and its existing strong partnerships with these energy related-institutions provide the program a unique opportunity to expose students in the proposed program to hands-on applications that do not exist anywhere else in Canada. The outcome-based assessment is essential in every course of the proposed program and covers the following: introducing what students should be able to do, measuring the student performance and using the data to improve the quality of the learning environment. In this regard, the CEAB graduate attributes are diligently considered and evaluated. There are specific advantages offered to students that are the result of strong ties with the City of Oshawa (such as the Teaching City program) and

Durham Region (on various subjects where students are involved in various projects related to energy efficiency and conservation, district energy systems, waste to energy options, etc.) as well as numerous projects coming from the local industries for capstone course design projects where students are allowed to have direct experience and cooperative work and enhance their experiential learning. These ensure the program's uniqueness.

d) Student Demand

- *Provide evidence of student demand, including number of prospective student inquiries; applications and registrations for similar programs; results from surveys/focus groups of existing students, graduates, or professionals in the field*
- *Include information about domestic vs. international student interest*

There is a clearly demonstrated demand amongst students for the proposed Energy Engineering program. Within the Faculty of Engineering and Applied Science's (FEAS) current mechanical engineering program has the energy option which attracts more than 35 students each year. Also, in the Faculty of Energy Systems and Nuclear Science (FESNS), nuclear engineering students are interested in alternative energy elective courses. Engineering students are increasingly more interested in energy related capstone projects. They further request to specialize particularly in renewable energy systems and applications. It therefore makes sense to build on these successes and the growing demand by employers for energy engineers. A stand-alone program will allow Ontario Tech to better market the program and grow enrolment.

Graduates of the proposed Energy Engineering program will possess a unique 'system-wide' understanding of energy applications in Canada. Graduates will also understand how provincial systems (electricity, space heating and cooling, transportation) may, or may not be, integrated and how they are all undergoing intensifying stresses in a changing climate and with much greater demands for lower-carbon energy. Graduates have a unique opportunity to learn about individual aspects of energy systems, e.g. nuclear with wind and solar, as well as how the components need to be integrated into an overall resilient and economic system. Several courses, particularly in the third and fourth years, are uniquely selected and incorporated into this program. These include specific courses in wind and hydro, solar, geothermal, smart grid, hydrogen and fuel cells, and emerging and detailed energy systems design.

The program is further envisioned to have large international student enrollments since Ontario Tech's leadership is clearly known globally through its experts, publications and activities, which will help capitalize on enrollment locally and internationally.

Enrolment Information

- *Please complete Table 1 and provide, in paragraph form, information regarding enrolment projections*
- *Please determine the academic year when the program enrollment will reach a steady-state and add an asterisk (*) in the corresponding box beside the number*

Table 1 presents the projected enrolment for the program. The numbers assume the following: 10% attrition (this is the current attrition rate in engineering programs) from Years 1 to 2; 5% attrition between Years 2 and 3, and also Years 3 and 4; enrollment for the 2nd and 3rd academic years increase by 33% and 66% of the first academic year, respectively. It is important to note that the numbers in 4th year may change as some students take co-op/internships and come back in the fifth year to finalize their engineering degree; on average, this represents about 30% of students (consistent with other engineering programs at Ontario Tech). The enrollment will reach steady-state in the 3rd academic year (2023-2024).

Table 1: Projected Enrollment by Academic and Program Year

	Academic Year					
	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Level of Study						
1st year	30	40	50*	50	50	50
2nd year		27	36	45	45	45
3rd year			26	35	43	43
4th year				25	34	41
5th year						
Total Enrolment	30	67	112	155	172	179

e) Societal Need

- *Evidence of the need for graduates of the program and in which fields (within academic, public, and/or private sectors)*
- *Please indicate up to three occupations in which graduates from this proposed program may be employed using the Ontario Job Futures website*
- *For professional programs, a description of the program's congruence with current regulatory requirements*
- *Mention if any employers in the area support the need for this program and include a letter(s) of support as an additional appendix*

The role of energy in societal wellbeing and prosperity is clear. There is a growing demand for energy due to the increasing population, urbanization, and affluence. Energy engineers need to develop, operate and service these systems to meet this growing demand.

Currently, employers such as GE, Ontario Power Generation, General Motors, and Magna hire graduates from the existing programs – Mechanical Engineering with Energy specialization, smart grid specialization in Electrical Engineering, and Nuclear Engineering.

Graduates would be well-positioned to be employed in the following occupations from Ontario's Labour Market website (https://www.services.labour.gov.on.ca/labourmarket/search.xhtml?lang=en):

- Engineering managers (NOC 0211), after gaining experience
- Utilities managers (NOC 0912), after gaining experience
- Natural and applied science policy researchers, consultants, and program officers (NOC 4161)

The enhanced skill sets offered by the proposed Energy Engineering program will increase the overall demand for Ontario Tech engineering graduates.

As per all accredited engineering programs, the new Energy Engineering program is designed to meet the requirements of the Canadian Engineering Accreditation Board (CEAB).

f) Duplication

- *Describe how the program is distinct from other programs at Ontario Tech. Is it reasonable to anticipate this program might affect enrolment in other related programs? If so, how might this be addressed?*
- *Identify similar or complementary programs offered elsewhere in Ontario in Table 2. Please be brief but specific in the table. Avoid value-based statements*

Table 2: List of Similar Programs in Ontario

Institution Name	**Credential Level and Program Name**
Carleton University	Bachelor of Engineering in Sustainable and Renewable Energy Engineering
Link to Program Web Page: https://admissions.carleton.ca/programs/sustainable-and-renewable-energy-engineering/	
Brief Program Description: In their program, they aim to provide analytical and hands-on skills for designing, building, operating and enhancing sustainable energy systems that combine energy generation, distribution and utilization in an environmentally responsible and economically beneficial manner. Two streams are offered: Smart Technologies for Power Generation and Distribution and Efficient Energy Generation and Conversion.	
What differentiates the new program from this existing program: This program is specific to an aspect of energy, whereas the new program covers all aspects of energy.	
Hydrogen and fuel cell technologies	Renewable energy technologies
Energy storage technologies	Alternative fuels technologies
New nuclear energy technologies	

- *Provide additional overall comment on the justification for this duplicatiuon*

The Carleton University program is the only similar program in Ontario; however, the proposed program does not only focus on renewable energy but also provides students with the needed skills related to nuclear engineering, thermo-mechanical systems and electrical engineering "smart grid."

Ontario Tech currently offers BEng degrees in Electrical Engineering-smart grid specialization, Nuclear Engineering, and Mechanical Engineering – Energy specialization. While the Energy Engineering program may redirect a few students from these programs, the impact is expected to be marginal for the foreseeable future. The new program will have unique features of the current Electrical and Nuclear Engineering programs through its niche subjects and will be more specialized than the Mechanical Engineering – Energy option, where the students enjoy more mechanical engineering-based education.

2 Program Requirements

a) Admission Requirements

- *Outline the formal admission requirements; explain how these are appropriate for the program learning outcomes: How will they help to ensure students are successful? How do they align with the learning outcomes of the program? (QAF 2.1.2a)*
- *Explain any additional requirements for admission to the program such as special language, portfolio, etc. (and how the program recognizes prior work or learning experience, if applicable) (QAF 2.1.1b)*
- *If this is not a direct-entry from high-school program, please explain*

Current Ontario secondary school students must complete the Ontario Secondary School Diploma (OSSD) with six 4U or 4M credits, including English (ENG4U) with a minimum average of 60 percent, Advanced Functions (MHF4U), Calculus and Vectors (MCV4U), Chemistry (SCH4U) and Physics (SPH4U). In addition, a combined minimum 70 percent average in math and science courses is required, with no grade below 60 percent. For details about applicants with credentials from outside Ontario, one may see the admissions section of Future Students at https://ontariotechu.ca.

These admissions requirements are standard for Ontario Tech engineering programs.

b) Program Learning Outcomes and Assessment of Student Knowledge (QAF 2.1.1b, 2.1.6)

- ***Connect with the Academic Planning Officer in CIQE (ciqe@ontariotechu.ca) early in the program development to review learning outcomes***
- *In Table 3 below, please describe what the student will know or be able to do (knowledge, methodologies, and skills) by the end of the program and indicate how that knowledge or skill will be demonstrated*

- *An example has been provided in purple in the first row and can be removed.*

Degree Level Expectations are set by the Quality Council of Ontario and should not be modified. For the list of and more information on these expectations, including a detailed description, visit their website.

Table 3: Program Learning Outcomes

Program Learning Outcomes By the end of the program, students graduating will be able to… (normally 6-8 outcomes per program with 12 being the maximum)	Degree Level Expectations (list all that apply; you must align with each expectation at least once)	Relevant courses (provide course code and course title)	Assessment of Learning Outcomes (e.g. test, rubric, self-assessment, etc.)
Apply knowledge of athematics, physics, chemistry, engineering science, and engineering design to identify, formulate, analyze, and solve problems	Depth and Breadth of Knowledge	Particularly core courses in Years 1 to 4, including: ENGR1025U-Engineering Design ENEE2160U-Energy and Environmental Impacts	-In-class quizzes, midterm, assignments, lab reports, group project and final exam for ENGR1025U, -In-class quizzes, midterm, course project and final exam for ENEE2160U.
Describe and apply the engineering design process to energy system design problems, learn and quantify the environmental impacts of energy, system implementation practices, performance assessment and evaluation, impact assessment methodologies, carbon capturing and reduction technologies, cleaner energy solutions, comparative evaluation of energy options	Knowledge of Methodologies	Core design courses and courses featuring a design project, including: ENGR1025U-Engineering Design ENEE3265U-Hydrogen and Fuel Cells ENGR4960U-Capstone Systems Design-I ENEE4161U-Solar Energy ENEE4163U-Wind and Hydro Energy ENEE4260U-Integrated Energy Systems ENGR4961U-Capstone Systems Design-II	-In-class quizzes, midterm, assignments, lab reports, group project and final exam for ENGR1025U, -Midterm, assignments, course project and final exam for ENEE3265U, -Progress reports, final report and presentation for ENGR4960U, -Midterm, assignments, course project and final exam for ENEE4161U, -Midterm, assignments, course project and final exam for ENEE4163U, -Midterm, assignments, course project and final exam for ENEE4260U,

			-Progress reports, final report, final poster, flyer, building prototype and presentation for ENGR4961U)
Use computer-aided engineering software tools to solve problems and to acquire and process data	Knowledge of Methodologies	Core courses that teach and utilize engineering software tools, including: ENEE3030U-Computer Aided Design MECE3260U-Intro. to Energy Systems ENGR4960U-Capstone Systems Design-I ENEE4161U-Solar Energy ENEE4163U-Wind and Hydro Energy ENGR4961U-Capstone Systems Design-II	-Assignments, case study and course project for ENGR1025U, -Course project for MECE3260U, -Progress reports and final report for ENGR4960U, -Course project for ENEE4161U, -Course project for ENEE4163U, -Progress reports and final report for ENGR4961U)
Demonstrate strong independent learning and analytical skills and be an effective member of multidisciplinary and multi-cultural teams, either as a team member or as a project manager	Application of Knowledge	ENGR4960U-Capstone Systems Design-I ENGR4961U-Capstone Systems Design-II	-Progress reports and final report for ENGR4960U, -Progress reports, final report and building prototype for ENGR4961U)
Communicate effectively in written, spoken, and visual form with both technical experts and with members of the general public on engineering matters	Communication Skills	ENGR4960U-Capstone Systems Design-I ENGR4961U-Capstone Systems Design-II	-Progress reports, final report and presentation for ENGR4960U, -Progress reports, final report, final poster, flyer, prototype demonstration & exhibition and presentation for ENGR4961U)
Recognize and describe the value of alternative outlooks that people from various social,	Awareness of Limits of Knowledge	SSCI1470U-Impact of Science and Technology on Society	-Assignments and reports for SSCI1470U, -Course project for ENEE2160U, -Course project for

ethnic and religious backgrounds, as well as professions, may bring to energy engineering, understand and apply various knowledge and methodologies for design, analysis and assessment purposes, social, environmental and economic impact assessments		ENEE2160U-Energy and Environmental Impacts ENEE4260U-Integrated Energy Systems	ENEE4260U.
Demonstrate an appreciation for the importance of new and emerging energy technologies, and the strategies and policies available for lifelong learning, learn and apply the social, environmental,ethical, economic and sustainability dimensions for better engineering practices.	Autonomy and Professional Capacity	ENGR4960U-Capstone Systems Design-I ENEE4260U-Integrated Energy Systems ENGR4961U-Capstone Systems Design-II	-Reports and Presentation for ENGR4960U, -Course project and presentation for ENEE4260U. -Reports, presentation and demonstrating the prototype for ENGR4961U)

- *Selecting a few examples from above, explain in detail how the program design and requirements support the attainment of the Program Learning Outcomes (QAF 2.1.1b)*
- *With assistance from the Academic Planning Officer in CIQE (ciqe@ontariotechu.ca), please provide further details on the Assessment of the Program Learning Outcomes, as outlined in the Quality Council's Quality Assurance Framework Section 2.1.6 - Assessment of Teaching and Learning:*
  - *QAF 2.1.6a: Appropriateness of the proposed methods for the assessment of student achievement of the intended program learning outcomes and Degree Level Expectations (How will students demonstrate they have learned and can do what we expect them to by the end of the program?).*
  - *QAF 2.1.6b: Completeness of plans for documenting and demonstrating the level of performance of students, consistent with the Degree Level Expectations (How will the effectiveness of the program be assessed?)*

The new Energy Engineering program is designed to meet the requirements set forth by the Canadian Engineering Accreditation Board (CEAB). The CEAB currently uses an outcome-based model for accreditation purposes. As part of this process, the CEAB has identified 12 Graduate Attributes (GAs) as follows:
1. Knowledge Base for Engineering
2. Problem Analysis
3. Investigation
4. Design

5. Use of Engineering Tools
6. Individual and Team Work
7. Communication Skills
8. Professionalism
9. Impact of Engineering on Society and the Environment
10. Ethics and Equity
11. Economics and Project Management
12. Life-Long Learning

In every course, the Course GAs are first identified, and the levels of their coverages are determined as appropriate [introduced (I), developed (D), applied (A), or NA], along with that a brief description of the content covered in support of each graduate attribute is also provided. The next step is to link Course Outcomes (Course GA Indicators) to Faculty GA Indicators and CEAB GAs. The following step is to provide the Performance Levels and Methods of Measurement under the Course Outcomes (Course GA Indicators). The next one becomes an evaluation of the Performance Level Grading Rubric for Course Outcomes (Course GA Indicators). These are illustrated through the graphs and evaluated accordingly. In the second part, the course contributions to graduate attributes and continual improvement – results are presented and evaluated accordingly for the subject matter courses. In this regard, the Performance Level Breakdowns for Course Outcomes (Course GA Indicators) and Improvement Assessment for the Year Assessed are tabulated for evaluation accordingly.

The following example given for MECE3260U-Introduction to Energy Systems, which is a key course in this program, to illustrate the above listed process and provide a clear description.

Table 1a. Course Graduate Attributes and Level of Coverage in Course

CEAB Graduate Attribute (GA)	Level of Coverage in Course "IDA"	Brief Description of Content Covered Broken Down by Graduate Attribute (to Explain Level of Coverage Claimed)
A Knowledge Base for Engineering (KB)	D	A knowledge base is developed on various conventional and renewable energy systems, their operation, technologies, issues, analyses, assessment, etc. For more details, see Table 1b, c.
Problem Analysis (PA)	D	Problem analysis for energy systems is developed through energy and exergy analyses and their use for system design , analysis, assessment and possible improvement. Fuel combustion analysis is also developed. Furthermore, environmental impact assessment is developed for study. For more details, see Table 1b, c.

Investigation (Inv.)	D	An open ended course project is given on design and analysis as requiring investigation. Also, quizzes were given to them to investigate engineering . For more details, see Table 1b, c.
Design (Des.)	D	This developed by introducing some specific coverage about the design of energy systems. Also, there is an open-ended course design-analysis project assigned. For more details, see Table 1b, c.
Use of Engineering Tools (Tools)	D	Students use thermodynamic analysis, performance assessment and impact assessment tools, as well as some software packages (e.g., EES, RETScreen, GREET). For more details, see Table 1b, c.
Individual and Team Work (Team)		Topics well cover and discuss the impacts of energy engineering on human health and human welfare as well as on the environment, along with case studies and examples. For more details, see Table 1b, c.

Table 1b. Course Outcomes (Course GA Indicators) and their Link to Faculty GA Indicators and CEAB GAs

Course Outcome (Course GA Indicator)	**Faculty GA Indicator Supported (Main Ones in Bold)**	**CEAB GA Supported Significantly (D and/or A Level of Coverage)**
Demonstrate a knowledge of the basic technical and operational aspects of energy systems and applications.	**KBb, KBc, PAa, PAb, Inva, Des, Impactsa, Impactsb, Impactsc**	KB, PA, Inv, Des, Impacts
Understand how thermodynamic principles govern the behavior of various energy systems and applications	**PAa, PAb, PAc, Inva, Invb, Desa, Desb, Toolsa, Toolsb**	PA, Inv, Des, Tools
Apply appropriate simplifying assumptions and the laws of thermodynamics to energy systems and processes.	**PAb, PAc,** Toolsb	PA
Demonstrate a knowledge of methods of analysis, design and performance improvement of energy systems.	**PAc, PAd, Invb, Invc, Desa, Desb, Desc, Desd, Toolsb, Toolsc**	PA, Inv, Des, Tools

Course Outcome (Course GA Indicator)	**Faculty GA Indicator Supported (Main Ones in Bold)**	**CEAB GA Supported Significantly (D and/or A Level of Coverage)**
Use thermodynamic tables, charts, equations and software to obtain thermodynamic data in terms of pressure, temperature, specific volume, internal energy, enthalpy, and entropy and determine their relationships for system analysis.	**PAa, Invb, Toolsb**	PA, Inv, Tools
Demonstrate the impacts of energy engineering on human health and human welfare as well as on the environment, along with case studies and examples	**Impactsa, Impactsb, Impactsc**	Impact

Table1c. Course Outcomes (Course GA Indicators) and Performance Levels and Methods of Measurement

Course Outcome (Course GA Indicator)	Performance Level Definition Used	Method of Measurement of Performance Level
Demonstrate a knowledge of the basic technical and operational aspects of energy systems and applications.	3: >80%; 2: 60-80%, 1: 50-60%, 0: <50%	Quizzes, Course project, Midterm exam, Final exam
Understand how thermodynamic principles govern the behavior of various energy systems and applications	3: >80%; 2: 60-80%, 1: 50-60%, 0: <50%	Quizzes, Course project, Midterm exam, Final exam
Apply appropriate simplifying assumptions and the laws of thermodynamics to energy systems and processes.	3: >80%; 2: 60-80%, 1: 50-60%, 0: <50%	Course project
Demonstrate a knowledge of methods of analysis, design and performance improvement of energy systems.	3: >80%; 2: 60-80%, 1: 50-60%, 0: <50%	Course project
Use thermodynamic tables, charts, equations and software to obtain thermodynamic data in terms of pressure, temperature, specific volume, internal energy, enthalpy, and entropy and determine their relationships for system analysis.	3: >80%; 2: 60-80%, 1: 50-60%, 0: <50%	Course project, Quizzes
Demonstrate the impacts of energy engineering on human health and human welfare as well as on the environment, along with case studies and examples	3: >80%; 2: 60-80%, 1: 50-60%, 0: <50%	Course project, Quizzes

Table 1d. Performance Level Grading Rubric for Course Outcomes (Course GA Indicators)

Course Outcome (Course GA Indicator)	Performance Level
Demonstrate a knowledge of the basic technical and operational aspects of energy systems and applications.	Based on midterm and final exams, quizzess, and course design project. 3: Excellent performance on exam questions (≥80%) 2: Good to very good performance on exam questions (60-80%) 1: Marginally acceptable performance on exam questions (50-60%) 0: Unacceptable performance on exam questions (<50%)
Understand how thermodynamic principles govern the behavior of various energy systems and applications	Based on midterm and final exams, quizzes, and course design project. 3: (≥80%), 2: (60-80%) 1: (50-60%) 0: (<50%)
Apply appropriate simplifying assumptions and the laws of thermodynamics to energy systems and processes.	Based on the course design project. 3: (≥80%), 2: (60-80%) 1: (50-60%) 0: (<50%)
Demonstrate a knowledge of methods of analysis, design and performance improvement of energy systems.	Based on the course design project. 3: (≥80%), 2: (60-80%) 1: (50-60%) 0: (<50%)
Use thermodynamic tables, charts, equations and software to obtain thermodynamic data in terms of pressure, temperature, specific volume, internal energy, enthalpy, and entropy and determine their relationships for system analysis.	Based on the quizzes and course design project. 3: (≥80%), 2: (60-80%) 1: (50-60%) 0: (<50%)
Demonstrate the impacts of energy engineering on human health and human welfare as well as on the environment, along with case studies and examples	Based on the quizzes and course design project.3: (≥80%), 2: (60-80%) 1: (50-60%) 0: (<50%)

Table 2. Performance Level Breakdown for Course Outcomes (Course GA Indicators) and Improvement Assessment for the Year Assessed

Course Outcome (Course GA Indicator)	Performance Level Breakdown (Student Numbers)*	Analysis, Conclusions and Recommendations
Demonstrate a knowledge of the basic technical and operational aspects of energy systems and applications.	3: 12 2: 17 1: 4 0: 1 Overall: 34	Analysis: performance adequately meets or exceeds expectations. Conclusions: Students mastered the material taught adequately and seemed suitably prepared on entry. Recommendations: No course changes are required based on the performance on GAs. However, the instructor will consider using specific questions to assess the GA (KBE) in future and not the total mark as in this case.
Understand how thermodynamic principles govern the behavior of various energy systems and applications	3: 16 2: 15 1: 3 0: 0 Overall: 34	Analysis: performance adequately meets or exceeds expectations. Conclusions: Students mastered the material taught adequately. Recommendations: No course changes are required based on the performance on GAs. However, the instructor will consider using specific questions to assess the GA (i.e., PA) in future instead of using the total grades.
Apply appropriate simplifying assumptions and the laws of thermodynamics to energy systems and processes.	3: 15 2: 15 1: 2 0: 2 Overall: 34	Analysis: performance adequately meets or exceeds expectations. Conclusions: Students mastered the material taught adequately. Recommendations: No course changes are required based on the performance on GAs. In future the instructor will design the project question such that the first part involves investigation of the various systems in the area in the design project. It is the marks for this part of the project that are used to assess this GA (i.e., Inv.) instead of the total grade for the project.

In addition to showing that there is sufficient lecture, lab, and tutorial hours in the areas of Mathematics, Basic Science, Engineering Science, Engineering Design, and Complementary Studies, all engineering programs in Canada must demonstrate how the 12 Graduate Attributes listed above are attained in their program. These attributes will partly or fully (depending on the course content) be implemented accordingly in every course. The students of this program will be well-trained and equipped with the knowledge and critical thinking, design, analysis, modeling, investigation, assessment, evaluation, improvement, innovative solution capabilities. They will further learn about environmental impact assessment, life cycle assessment, optimization and policy and strategy development and gaining such skills will differentiate our graduates.

Tables for the Accreditation Units (AU) breakdown and the CEAB Graduate Attributes can be found in Appendix A.

- *Please attach, as an Appendix, the Program Learning Outcome Alignment Map to Degree Level Expectations – See Appendix A - Accreditation tables*
- *If the program is to be accredited, include with the above information about the accreditation requirements and add the accreditation tables, if available, as an Appendix.*

c) Program Structure and Content

- *Describe the requirements and structure of the program. Is it full-time/part-time? Is this an online or partially online/hybrid program? What are the unique curriculum or program innovations or creative components in this program? (QAF 2.1.4b)*
- *Address how the program's structure will help students to meet the program learning outcomes and Degree Level Expectations (QAF 2.1.3a)*

The new Energy Engineering program will continue the strategy of other engineering programs at Ontario Tech of having a core engineering design course in each year of the program. Design, problem solving and experiential learning are fundamental engineering activities in each engineering sector, and thus these are core values in in any engineering program. The program will be administered by the Program Curriculum Committee (PCC), two members from FEAS and two members from FESNS, and the Engineering Curriculum Committee (ECC), which has a member from each engineering program. The readiness of the program for engineering accreditation and approvals of changes or modifications will be subjected to the same governance of engineering programs at Ontario Tech, which has the Engineering Faculty Council as the final approval body within the Faculty.

Since energy includes elements from mechanical, electrical, nuclear, and control systems, the Energy Engineering program features courses from all of these disciplines. The program maps for the BEng Energy Engineering and the BEng Energy Engineering and Management programs can be found in Appendix B.

The program is intended to be delivered primarily face-to-face for the existing courses with opportunities for blended delivery of some courses and their components. For example, experiential learning and hands-on experience are important features, and also there are opportunities for flipped classrooms and project-based delivery. The current first year course, "Introduction to Engineering" is under review to include Indigenous components and also to allow students to gain knowledge beyond the traditional classroom delivery through plant and community visits and course projects. There will also be community-based capstone projects allocated to indigenous communities. Instructors will be encouraged to emphasize laboratory activities and invite speakers from different industrial sectors to provide students with exposure to different engineering disciplines and careers.

Detailed mapping of the program structure against graduate attributes can be found in Appendix A.

- *Describe the ways in which the curriculum addresses the current state of the discipline (QAF 2.1.4a)*

Energy Engineering is tailored to address the current state of the discipline, covering critical energy challenges and bringing forward solutions. This includes required (and ongoing) transitions to electricity supply grids through the integration of renewable energy, energy storage, and smart grid applications. It also goes further to cover system(s) integration, hydrogen and fuel cell technologies, and polygeneration possibilities. Including courses such as Artificial Intelligence in Engineering, and Energy and Environmental Impacts ensures students learn about the biggest challenges/ opportunities and state-of-the-art. The program links energy dimensions to environmental impact, economy, society and sustainable development, along with the sustainable development goals of the United Nations.

- *Is there an experiential learning component (e.g. workplace learning, co-op, internship, field placements, service learning, mandatory professional practice) to the program? If yes, please describe this component in 2500 words or less. Include confirmed partners, duration of the experiential learning component(s), and projected number of placements (where applicable)*

The Engineering Co-Op and Internship Office is committed to supporting eligible students enrolled in all Engineering programs, as well as students in the Health Physics and Radiation Science program at Ontario Tech University. Their goal is to assist in all aspects of finding an appropriate Co-Op or Internship placement that provides valuable engineering work experience while completing an undergraduate degree program.

Our programs incorporate engineering co-op opportunities to gain invaluable working experience prior to graduation. These experiential learning opportunities range in duration from 4-16 months. Students in the co-op stream who successfully complete 3 work terms will graduate with the Co-operative Education designation on their degree parchment.

Other experiential learning opportunities, including field trips to local energy suppliers and participation in the City of Oshawa Teaching City initiative, will also be available.

- *Describe how the potential need to provide accessibility accommodations has been considered in the development of this program; please provide information beyond the services offered by Student Accessibility Services*

Disability-related and accommodation support is available for students with mental health, physical, mobility, sensory, medical, cognitive, or learning challenges. It is ensured that disability-related concerns are properly addressed during this program. Students with documented disabilities and who may require assistance to participate in this program are encouraged to speak with their Academic Advisor as soon as possible. Students who suspect they may have a disability that may affect their participation in this program are advised to go to the Centre for Students with Disabilities as soon as possible.

It is anticipated that the accommodations available to our current engineering students will also well-serve students in the Energy Engineering program.

d) Calendar Copy with Program Map(s)

- *Provide, as an Appendix using the template provided, a clear and full calendar copy. The template ensures consistency across all programs in the Academic Calendar*
  - *Note that pathway (Bridge/Advanced Entry) programs will require a separate, usually shorter, section in the Calendar; please be sure to include one entry for each program type. Pathway Calendar example*
  - *New Minors, Co-op programs, or other alternatives have additional Calendar entries. Should you be including these items, please contact CIQE for more information and templates*
- *Provide, as an Appendix, a full list of the all courses included in the program including course numbers, titles, and descriptions. Please indicate clearly whether they are new/existing. Include full course proposals for new courses, and the most recent course syllabi for existing courses. If you are making changes to existing courses, include instead a course change form. In an appendix noted below, you will note which faculty members are expected to teach in the program and who is responsible for developing any new courses.*

See Appendix B for the proposed calendar copy.

See Appendix C for a full list of courses in the program.

Program map for reference/course sequence illustrative purposes only)

Energy Engineering (Proposed)						
Year	**Course**	**Course**	**Course**	**Course**	**Course**	**Course**
1-1	COMM 1050U Technical Communications	ENGR 1015U Introduction to Engineering	MATH 1010U Calculus I	MATH 1850U Linear Algebra for Engineers	PHY 1010U Physics I	
1-2	CHEM 1800U Chemistry for Engineers (Credit restrictions: CHEM 1010U/CHEM 1020U/CHEM 1110U)	ENGR 1025U Engineering Design (ENGR 1015U)	ENGR 1200U Introduction to Programming for Engineers (Credit Restriction: INFR 1100U)	MATH 1020U Calculus II (MATH 1010U)	PHY 1020U Physics II (PHY 1010U)	SSCI 1470U Impact of Science and Technology on Society
2-1	MANE 2220U Structure and Properties of Materials (CHEM 1800U)	MATH 2860U Differential Equations for Engineers (MATH 1020U, Coreq: MATH 1850U)	ESNS 2140U Problem Solving, Modelling & Simulation (MATH 1020U, PHY 1010U or ENSY 2210U, ENGR 1200U or CSIC 1040U)	ENEE 2160U Energy and Environmental Impacts (PHY1020U)	NUCL2860U Fluid Mechanics (PHY 1010U, MATH 1020U)	Liberal Studies Elective
2-2	ELEE 2790U Electric Circuits (MATH 1020U, MATH 1850U, PHY 1020U)	ENGR 2100U Computational Engineering Applications (ENGR 1200U, MATH 1850U, MATH 2860U)	NUCL 1530U Radiation and Nuclear Technologies	STAT 2800U Statistics and Probability for Engineers (MATH 1020U)	NUCL2010U Thermodynamic Cycles (PHY 1010U, MATH 1020U)	
3-1	MECE 3260U Introduction to Energy Systems (NUCL2010, ENGR 1015U	NUCL 3930U Heat Transfer (NUCL2010)	ENEE 3030U Computer-Aided Design) (ENGR1025U, Coreq: ESNS 3380U)	MECE 3410U Electro-Mechanical Energy Conversion (ELEE 2790U, MECE 2320U or MECE 2640U or NUCL 2010U)	MECE 3350U Control Systems (ELEE 2790U or ELEE 2210U, MATH 2860U)	ESNS 3380U Strength of Materials (PHY1010, MANE2220)
3-2	ENGR 3360U Engineering Economics	MANE4160U Artificial Intelligence in Engineering (MECE3350U, MATH2070U or ENGR 2100U)	ELEE 3260U Power Systems (ELEE 3250U or MECE 3410U)	ENEE 3265U Hydrogen and Fuel Cells (MECE2320 or NUCL 2010U)	Liberal Studies Elective	
4-1	ELEE 4115U Fundamentals of Smart Grid (ELEE 3260U)	ENGR 4960U Capstone Systems Design for Energy Engineering I (Successful completion of all non-elective courses in year three)	MANE4380U Life Cycle Engineering (MECE 3030U)	ENEE 4161U Solar Energy MECE 3260U and (MECE 3930 or NUCL3930)	ENEE 4163U Wind and Hydro Energy MECE 3410U and MECE 3260U and (MECE 2860U or NUCL 2860U)	ENGR4760U Ethics, Law and Professionalism for Engineers
4-2	ENGR 4961U Capstone Systems Design for Energy Engineering II (ENGR 4960U)	ENEE4260U Integrated Energy Systems (MECE 3260U)	Energy Engineering Elective	Energy Engineering Elective	Energy Engineering Elective	

Program map for reference/course sequence illustrative purposes only)

Energy Engineering and Management (Proposed)						
Year	**Course**	**Course**	**Course**	**Course**	**Course**	**Course**
1-1	COMM 1050U Technical Communications	ENGR 1015U Introduction to Engineering	MATH 1010U Calculus I	MATH 1850U Linear Algebra for Engineers	PHY 1010U Physics I	
1-2	CHEM 1800U Chemistry for Engineers (Credit restrictions: CHEM 1010U/CHEM 1020U/CHEM 1110U)	ENGR 1025U Engineering Design (ENGR 1015U)	ENGR 1200U Introduction to Programming for Engineers (Credit Restriction: INFR 1100U)	MATH 1020U Calculus II (MATH 1010U)	PHY 1020U Physics II (PHY 1010U)	SSCI 1470U Impact of Science and Technology on Society
2-1	MANE 2220U Structure and Properties of Materials (CHEM 1800U)	MATH 2860U Differential Equations for Engineers (MATH 1020U, Coreq: MATH 1850U)	ESNS 2140U Problem Solving, Modelling & Simulation (MATH 1020U, PHY 1010U or ENSY 2210U, ENGR 1200U or CSIC 1040U)	ENEE 2160U Energy and Environmental Impacts (PHY1020U)	NUCL2860U Fluid Mechanics (PHY 1010U, MATH 1020U)	Liberal Studies Elective
2-2	ELEE 2790U Electric Circuits (MATH 1020U, MATH 1850U, PHY 1020U)	ENGR 2100U Computational Engineering Applications (ENGR 1200U, MATH 1850U, MATH 2860U)	NUCL 1530U Radiation and Nuclear Technologies	STAT 2800U Statistics and Probability for Engineers (MATH 1020U)	NUCL2010U Thermodynamic Cycles (PHY 1010U, MATH 1020U)	
3-1	MECE 3260U Introduction to Energy Systems (NUCL2010, ENGR 1015U	NUCL 3930U Heat Transfer (NUCL2010)	ENEE 3030U Computer-Aided Design) (ENGR1025U, Coreq: ESNS 3380U)	MECE 3410U Electro-Mechanical Energy Conversion (ELEE 2790U, MECE 2320U or MECE 2640U or NUCL 2010U)	MECE 3350U Control Systems (ELEE 2790U or ELEE 2210U, MATH 2860U)	ESNS 3380U Strength of Materials (PHY1010, MANE2220)
3-2	ENGR 3360U Engineering Economics	MANE4160U Artificial Intelligence in Engineering (MECE3350U, MATH2070U or ENGR 2100U)	ELEE 3260U Power Systems (ELEE 3250U or MECE 3410U)	ENEE 3265U Hydrogen and Fuel Cells (MECE2320 or NUCL 2010U)	Liberal Studies Elective	
4-1	BUSI 1130U Introduction to Financial Accounting	BUSI 2050U Managerial Economics	BUSI 2311U Organizational Behaviour	BUSI 3700U Strategic Management for Professionals	ENGR 3160U Engineering Operations and Project Management	
4-2	BUSI 2180U Introduction to managerial Accounting	Before Fall 2021: BUSI 2205U Principles of Marketing; After Fall 2021 BUSI 2200U Marketing Management	BUSI 2410U Managerial Finance	BUSI 2603U Introduction to Operations Management	Business Elective	
5-1	ELEE 4115U Fundamentals of Smart Grid (ELEE 3260U)	ENGR 4960U Capstone Systems Design I for Energy Engineering (Successful completion of all non-elective courses in year three)	MANE4380U Life Cycle Engineering (MECE 3030U)	ENEE 4161U Solar Energy MECE 3260U and (MECE 3930 or NUCL3930)	ENEE 4163U Wind and Hydro Energy MECE 3410U and MECE 3260U and (MECE 2860U or NUCL 2860U)	ENGR4760U Ethics, Law and Professionalism for Engineers
5-2	ENGR 4961U Capstone Systems Design II for Energy Engineering (ENGR 4960U)	ENEE4260U Integrated Energy Systems (MECE 3260U)	Energy Engineering Elective	Energy Engineering Elective	Energy Engineering Elective	

3 Consultation

- *Describe the expected impact of the new program on the nature and quality of other programs delivered by the home and collaborating Faculty(ies) and any expected impact on programs offered by other Faculties*
- *Outline the process of consultation with the Deans of Faculties that will be implicated or affected by the creation of the proposed program*
- *Provide letters of support for the program from Deans at Ontario Tech and/or from other institutions/partners*

Little impact is expected on faculties outside FEAS and FESNS (the initial additional 30 students anticipated could readily be accommodated in common first, and second year courses).

There may be an impact on enrollment in the current energy option of Mechanical Engineering, and possibly Nuclear Engineering (students may opt to enroll in the new program and get exposure to nuclear engineering through elective courses). However, overall enrollment in Electrical, Mechanical and Nuclear Engineering is expected to increase as students react to a greater emphasis on HVAC (post-Covid; mechanical engineering) and overall transition to low-carbon energy (increasing role of nuclear power).

Does this Program contain any Indigenous content? ☒ Yes ☐ No ☐ Unsure

For more information on how Indigenous content is defined at Ontario Tech University and how to consult with the Indigenous Education Advisory Circle (IEAC), please refer to the Protocol for Consultation with the Indigenous Education Advisory Circle.

Has the IEAC been contacted ☒ Yes ☐ No

If yes, when?

As stated earlier, currently, the first-year engineering course "ENGR 1015U: Introduction to Engineering" is under review with a goal to introduce Indigenous components as an introduction to Indigenous history in Canada, and the duty of engineers to consult with Indigenous groups will be added. This is meant to be a brief introduction to this complex topic with the goal of making engineering students aware of the major issues concerning Indigenous peoples and the duty of engineers to consult with them on projects that may affect them. The changes in this course will impact this program as well as other engineering programs at Ontario Tech. Initial discussions have started with IEAC, and we will ensure that we work with IEAC to determine the material content and the best way to deliver it.

There are other opportunities for incorporating Indigenous content into the curriculum; these will be discussed with the IEAC before implementation. These include: (1) The capstone course coordinator is inviting projects from Indigenous communities, which will

provide more opportunity for Indigenizing the curriculum and provide students with the needed exposure and skills.

This is being discussed with Saugeen Indigenous Community for possible collaboration. (2) It is planned to have field trips in various energy courses to allow students to experience and interact with the energy systems and applications as well as communities. In this regard, the field trip component of the course will also visit Indigenous Community-owned energy facilities, e.g., Henvey Inlet Wind facility (largest in Canada).

What was the advice you received from the IEAC, and how has it been included in your proposal?

Please see above, discussions are on-going.

Did the IEAC ask you to return the proposal to them for review? ☐ Yes ☒ No

If yes, have they completed their review? ☐ Yes ☐ No ☒ N/A

4 Resource Requirements (QAF 2.1.7, 2.1.9, 2.1.10)

a) General Resource Considerations

- *Note here if this new program may impact enrolment agreements with other institutions/external partners that exist with the Faculty/Provost's office*
- *Indicate if the new program will require changes to any existing agreements with other institutions, or will require the creation of a new agreement. Please consult with CIQE (ciqe@ontariotechu.ca) regarding any implications to existing or new agreements.*

There are no anticipated changes to enrollment agreements with other institutions or external partnerships. Students seeking internships and/or co-operative employment placements will be accommodated through existing sector partnerships (that would increase commensurate with student enrollment increases).

b) Faculty Members - Current and New Faculty Requirements

- *Complete as an Appendix, using the Faculty Information template provided, a chart detailing the list of faculty committed to the program and provide any additional details, in paragraph form, if necessary below*
- *Include here a brief statement to provide evidence of the participation of a sufficient number and quality of faculty who will actively participate in the delivery of the program*
- *Describe the role of any sessional faculty,*

- *Explain the provision of supervision of experiential learning opportunities*
- ***Describe the plan and commitment to provide additional faculty resources to support the program, if needed***
- *Indicate that faculty CVs are included in an Appendix, and please provide CVs for all faculty committed to the program*

A detailed Faculty Information table is included in Appendix D.

Ontario Tech is particularly well-served with a depth of qualified faculty with expertise in relevant energy fields. Our Electrical, Mechanical and Nuclear Engineering programs cover different aspects of energy engineering disciplines and there is a robust and growing research program in the area of renewable energy and hydrogen production and beyond

Experiential learning opportunities are also considerable at Ontario Tech. These include: Canada's largest smart grid (on campus); the Clean Energy Research Laboratory; two large-scale state-of-the-art geothermal systems (Ontario Tech and Durham College); an on-campus combined heat and power plant; easy access to an Energy From Waste facility (Clarington); energy storage and electric vehicle research (AVIN test-track at GM, Oshawa); and deep partnerships with local utilities and the City of Oshawa (Teaching City). These can all be accessed through existing faculty resources.

The initial two years of the program are expected to have students readily incorporated into existing (common) courses. New courses have faculty assigned already (and in place). As the program grows, e.g., more than 50 additional students, new faculty may be needed for additional classes of existing courses. This may require new hires; however, this is not anticipated for at least four to five years. Currently, there are sufficient faculty members to cover third and fourth year courses.

c) Additional academic and non-academic human resources

- *Give details regarding the nature and level of Sessional Instructor and TA support required by the program, the level of administrative and academic advising support, etc.*
- ***Please describe the plan and commitment to provide additional resources to support the program, if needed***

The addition of 30 students would be only a 1 to 3% increase in overall enrollment. Existing student services could accommodate this increase, especially for the first four years as additional student numbers are anticipated to stay below 50.

Additional TA hours will likely be required in those common courses joined by Energy Engineering students. Similarly, there will be a marginal increase in laboratory requirements (e.g., consumables) for those courses with a laboratory component.

d) Existing student supports

Ontario Tech University, as a relatively small campus community, has a centralized delivery model for student supports. All undergraduate students have access to an extensive support system that ensures a quality student experience. Each Faculty may provide additional, Faculty- or program-specific supports. In addition to the outlined services below, students may also take advantage of the Campus Childcare Centre, Campus Bookstores, Housing and Living Resources, as well as the Student Union. Further information can be found at: http://studentlife.ontariotechu.ca/

Faculty-Specific Support

Academic Advising

Please provide details on your Faculty Academic Advising Office and supports, and any Faculty-specific student support services (e.g. peer mentoring, 'coffee chats', study groups, etc.).

Academic Advising across the University is currently being reorganized, so faculty-specific impacts are expected to be less relevant. Regardless, the addition of 30 Energy Engineering students (initially) would be only a 1 to 3% increase in overall enrollment.

Student Life

Student Learning Centre

The Student Learning Centre fosters a high level of academic excellence in the Ontario Tech University community by working with all Ontario Tech University students, undergraduate and graduate, to achieve educational success. Foundational knowledge and prerequisite skills are essential to all university-level courses, and competency with these skills is vital for strong academic performance. Faculty specific academic resources are available online and include tip sheets and videos. The subject specialists offer in-person support services in mathematics, writing, study skills, ESL and physics. With the additional support of peer tutors and workshops, the Centre can further accommodate the needs of a specific course or program.

Student Accessibility Services

Student Accessibility Services (SAS) works collaboratively to ensure that students with disabilities have equal opportunities for academic success. SAS operates under the Ontario Human Rights Code (OHRC) and the Accessibility for Ontarians with Disabilities Act (AODA). Services are provided for students with documented disabilities. Accommodation supports include but are not limited to:

- Adaptive technology training

- Alternate format course material
- Learning skills support
- Testing support
- Transition support for incoming students

SAS also provides inclusive peer spaces, support groups, and skills workshops for students.

Careers and Internships
The Career Centre offers comprehensive career service assistance, co-op and internship support and resources, and a variety of valuable resources to help students along their career paths, including:

- Assistance with creating effective job-search documents
- Career Counselling
- Co-op and internship job search advising
- Interview preparation
- Job market information
- Job search strategies

A variety of events are hosted on campus during the academic year including employer information and networking sessions, job fairs, and interviews conducted by leading employers.

Student Engagement and Equity
Student Engagement and Equity supports students' successful transition into the university and provides opportunities for them to develop leadership and professional skills throughout their university career. Services provided through Student Engagement and Equity include:

- Orientation and events through first year
- Specialized programming for first-generation, graduate, Indigenous, international, mature, online, transfer, and diploma-to-degree pathways students
- Services and supports for international and exchange students
- Equity and inclusivity programming and support groups
- Assistance and advice for living off-campus
- Peer mentoring to help students through first year
- Opportunities to grow and develop leadership skills through the Ambassador and Peer Mentorship program

Student Mental Health Services
Student Mental Health Services helps students learn how to better manage the pressures of student life. Students can:

- Attend a drop-in session

- Participate in events and activities or support groups that promote positive health and well-being
- Access tools and resources online to learn about mental health and how to maintain good health and wellness
- Work with a mental health professional to address concerns
- Contact the Student Lifeline for immediate help and assistance
- Get answers to frequently asked questions about mental health

Student Mental Health Services offers short-term counselling and therapy services to students. Students in distress will also be provided with support and counselling as needed. There is no cost to students and services are confidential. For those who need long-term counselling support or specialized mental health services, Ontario Tech University will provide referrals to assist the student in accessing resources in the local community or in the student's home community.

Athletics and Recreation Facilities

Ontario Tech University offers a number of recreation facilities and fitness opportunities to meet all lifestyles and needs. On-campus facilities include the state-of-the-art FLEX Fitness Centre which overlooks Oshawa Creek, five gymnasiums, a 200-metre indoor track, two aerobic/dance studios, the Campus Ice Centre, Campus Fieldhouse, a soccer pitch, a fastball diamond, squash courts and an indoor golf training centre. Students are able to participate in varsity and intramural sports as well as group fitness classes and personal training sessions.

Campus Health Centre

The Campus Health Centre provides assistance in numerous confidential health-care options including:

- A medical clinic with daily access to physician and nursing staff
- Treatment of disease, illness, and injury
- Allergy injections, immunizations, and influenza injections
- Complementary Health Services featuring acupuncture, chiropractic, custom orthotics, massage therapy, nutritional counselling, and physical therapy
- An on-site laboratory (blood work, STI testing, throat swabs, etc.)
- Gynaecological health-care and prescriptions

Student Awards and Financial Aid

Student Awards and Financial Aid (SAFA) is dedicated to helping students understand the variety of options available to finance their education. Budgeting and financial planning are essential to their success and Student Awards and Financial Aid is on hand to help create the right financial plan. Financial assistance can be in the form of bursaries, employment (both on-campus and off), parental resources, scholarships, student lines of credit and the Ontario Student Assistance Program (OSAP).

Information Technology Resources

IT Services strives to provide quality services to students at Ontario Tech. To support these objectives, the following components are included:

Wireless network

Wireless internet connection is available in public areas and open-air locations around the Ontario Tech campus where students congregate (North Oshawa and Downtown locations).

Wired network

To ensure the success of the technology-enriched learning environment, a comprehensive data network has been installed on campus. This includes a network drops in lecture halls and designated areas as well as network drops for each residence suite.

Ontario Tech students benefit from networked classrooms and learning spaces. Each ergonomically-designed space has data network connection access and electrical connections to ensure battery regeneration. In addition, classrooms include electronic projection equipment and full multimedia support.

IT Service Desk

The IT Service Desk is equipped with certified technicians and experienced IT professionals offering technical support services on a drop-in, call-in or email basis.

GUWs

Ontario Tech undergraduate students are able to use general workstations available at the library and have access to Bring Your Own Device Technology-Enriched Learning Environment (BYOD TELE) model course-specific software.

Software Support

Software Support specialists are available to students on-site and online to assist in downloading/installing University software and support any other software related issues.

Printing services

Printing services are available to students in the following areas: labs, classrooms, study common areas, the Learning Commons and the Library. All Ontario Tech students receive print

credits every year, more Printpacks can be purchased through the Campus Bookstore if students require additional printing services.

Teaching & Learning Centre

The mission of the Teaching and Learning Centre (TLC) at Ontario Tech is to empower faculty to reach their potential as educators and to create a culture where effective teaching is valued. We champion the scholarship of teaching and implementation of pedagogy. We create valuable teaching and learning professional development experiences. We move Ontario Tech towards being a leader in teaching excellence, ultimately leading to greater student success.

The TLC provides faculty with a range of tools and facilities to assist them in providing a rich learning experience for students. Experts at the TLC provide support in various areas including curriculum development, multimedia design, learning technology and in the overall improvement of teaching practice.

In addition, the TLC funds teaching-related projects from the Teaching Innovation Fund (TIF) for proposals by faculty members aimed at developing new methods in teaching and learning. The TLC facilitates teaching awards at the University and supports faculty in their application for external awards and funding opportunities that focus on teaching and learning.

e) Physical resource requirements

- *Please attach a report, as an Appendix, from the Library regarding existing library holdings and support for student learning; please contact your Subject Librarian as you begin your proposal to request a 'Library statement for new program proposal'*
- *Address any space/infrastructure requirements including information technology, laboratory space, equipment, etc. If new space is required, please complete Table 4 (examples in purple); otherwise, please remove this Table from the document*
- *Ideally, please provide information on the change in the number of faculty, students, administrative staff, etc. as it relates to space, as well as information on changes in equipment and activities (additional space; the renovation of existing space; or will the current space allocation accommodate the new program)*
- ***Describe the plan and commitment to provide additional resources to support the program, if needed***

See Appendix E for the library report.

No new space requirements are anticipated. It is expected that Energy Engineering students will be able to be accommodated in existing laboratories for course-work. There will be a marginal increase in, e.g., laboratory consumables for those courses.

f) Business Plan

- *Provide a brief statement of the funding requirements, and insert the Program Summary tab from the New Degree Program UG Proposal Budget spreadsheet as an Appendix. Also, please submit a copy of the full Excel document to CIQE.*
- *Complete the highlighted sections of the New Program Funding and Tuition form and submit the form to CIQE as soon as possible*

See Appendix F for the Budget Spreadsheet.

5 Closing Statements Regarding Program Quality (QAF 2.1.10)

- *Please describe the appropriateness of the collective faculty expertise to contribute substantively to the proposed program; what areas of faculty strength and expertise, innovation, and scholarly record will contribute to the quality of the program and student experience*
- *Please explain how the program structure and faculty research will ensure the intellectual quality of the student experience*

Since the inception of Ontario Tech University, energy and particularly renewable and clean energy, has been a strategic priority. There is considerable expertise in energy engineering, across many sub-disciplines, including electrical power, smart grid, thermo-mechanical engineering, nuclear engineering, renewable energy and hydrogen production and utilization technologies. Our research areas cover fields as wide and diverse as nuclear reactor design, electrical power, smart grid, energy storage, renewable energy, HVAC systems, hydrogen-based systems, and economic and environmental assessments. The energy sector is intrinsic to modern society, facilitating activities and a quality of life that many take for granted and to which many others aspire. At the same time, the sector is also inextricably linked with issues of equity, environmental impact and human health. Indeed, to mitigate its negative implications, such as contribution to climate change, the energy sector is undergoing a transition from its conventional form to something more sustainable. Ontario Tech faculty members are well-recognized locally and internationally and on the forefront of this energy evolution, particularly in some niche areas, namely renewable energies, hydrogen and fuel cells, energy storage, smart grid, etc. They are well-suited to teaching the next generation of Engineers that will continue to lead the energy transition and steer it in as yet unforeseen directions.

BOARD REPORT

ACTION REQUESTED:

Recommendation ☐
Decision ☒
Discussion/Direction ☐
Information ☐

DATE: March 10, 2022

FROM: Academic Council

SUBJECT: New Program Proposal – Bachelor of Engineering and Bachelor of Engineering and Management in Industrial Engineering (Honours)

COMMITTEE MANDATE:
In accordance with Section a) of the Undergraduate Studies Committee (USC) Terms of Reference, USC has the responsibility "to examine proposals for new undergraduate degree programs and major changes to existing programs and to recommend their approval, as appropriate, to the Academic Council".

And,

In accordance with Article 1.4 of By-Law Number 2 of the University of Ontario Institute of Technology "Academic Council will make recommendations to the Board on matters including: a. the establishment or termination of degree programs".

MOTION FOR CONSIDERATION:
That pursuant to the recommendation of Academic Council, the Board of Governors hereby approves the Bachelor of Engineering and Bachelor of Engineering and Management in Industrial Engineering, as presented.

BACKGROUND/CONTEXT & RATIONALE:
The Faculty of Engineering and Applied Science is proposing a new degree program in Industrial Engineering. Industrial engineering is an engineering discipline that integrates several branches of engineering education with the objective of optimizing and improving complex engineering processes, systems, or organizations. This is achieved by implementing innovative integrated systems of people, knowledge, and equipment with financial effectiveness. Similar to all other engineering programs, hands-on experience and project-based courses are an integral part of the industrial engineering program. Students enrolled in this program will also have an opportunity to join the co-op option.

There is a high demand for industrial engineers in both Canada and the United States of America. The Faculty of Engineering and Applied Science's Department of Mechanical and

Manufacturing Engineering is well positioned to provide a successful Industrial Engineering program to address the current demand on Industrial Engineers in the market place. The industrial engineering program will utilize courses from FEAS's Mechanical, Manufacturing, and Mechatronics Engineering programs. Only thirteen new core courses will need to be created. Most of these new courses are offered in the third and the fourth years of the program (i.e. in academic years 2024-2025 and 2025-2026). In addition, the industrial engineering program will share the same common first year with all other engineering programs at Ontario Tech. The delivery mode of this program will be in-class.

RESOURCES REQUIRED:

The majority of faculty members required for the program will come from FEAS's existing complement of faculty members. FEAS will be requesting two tenure-track faculty members to teach in the new program when enrolments require this; the expectation is in 2024-2025. As per the other BEng programs at Ontario Tech, FEAS will continue to make use of service courses offered by the Faculty of Science and the Faculty of Social Sciences and Humanities. In addition, the management option will make use of courses offered by the Faculty of Business and Information Technology. All administrative support and technical support for the programs will come from existing FEAS personnel.

CONSULTATION AND APPROVAL:

USC for Recommendation: December 2021
Engineering Faculty Council: 6 December
2021 ARC Review: June 2021
Academic Council: January 2022

NEXT STEPS:

- Pending the approval of Academic Council, this proposal must then proceed through the following steps:
    - o
    - o Ontario Universities Council on Quality Assurance
    - o Ontario Ministry of Colleges and Universities

SUPPORTING REFERENCE MATERIALS:

- New Program Proposal
- Reports from External Review

New Undergraduate Program Proposal

Name of proposed program:	Industrial Engineering/Industrial Engineering & Management
Degree Designation/Credential:	BEng/BEng and Management
Faculty (where the program will be housed):	Department of Mechanical and Manufacturing Engineering Faculty of Engineering and Applied Science
Collaborating Faculty (if applicable):	
Program Delivery Location:	Ontario Tech University/North Campus
Collaborating Institution(s) (if applicable):	
Proposed Program Start Date:	September 2022
Proposal Contact:	Dr. Atef Mohany, Chair of the Mechanical and Manufacturing Engineering Department.
Submission Date:	December 2021
Approved by Dean: (signature and date)	

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1 Introduction

a) Program Abstract

Please provide a brief overview of the proposed program, in 1000 characters or less (including spaces), including:

- *A clear statement of the purpose of the program*
- *Any program components, such as specializations, pathways, or other offerings in addition to the major*
- *Any distinctive elements, including alternative modes of delivery (including online)*

Industrial engineering is an engineering discipline that integrates several branches of engineering education with the objective of optimizing and improving complex engineering processes, systems, or organizations. This is achieved by implementing innovative integrated systems of people, knowledge, and equipment with financial effectiveness.

In addition to the standard industrial engineering program, the Faculty of Engineering and Applied Science (FEAS) will also be offering an industrial engineering and management program. This program will be of the same format as all of FEAS's other management options where students do an additional year of business courses between Years 3 and 4 of their engineering program.

Similar to all other engineering programs (Mechanical, Automotive, Manufacturing, Mechatronics, Electrical and Software Engineering programs), hands-on experience and project-based courses are an integral part of the industrial engineering program and therefore the program will be delivered in-class. The students enrolled in this program will also have an opportunity to join the co-op option.

b) Background and Rationale

- *Identify what is being proposed and provide an academic rationale for the proposed program*
- *Explain the appropriateness of the program name and degree nomenclature; list any program specializations, pathways, etc.* ***(QAF 2.1.1c)***
- *Describe the mode of delivery (in-class, hybrid, online) and how it will support students in achieving the Degree Level Expectations and learning objectives of the program* ***(QAF 2.1.5)***
- *Describe the ways in which the program fits into the broader array of program offerings within the Faculty and the University*

There is a high demand for industrial engineers in both Canada and the United States of America. According to the Occupational Outlook Handbook[1], it is expected that in the coming 10 years there will be an increased demand for Industrial Engineer by 10%. This is much higher than the average demand for other engineering disciplines (currently at 4%). The Faculty of Engineering and Applied Science's Department of Mechanical and Manufacturing Engineering is well positioned to provide a successful Industrial Engineering program to address the current demand on Industrial Engineers in the market place. The industrial engineering program will utilize courses from FEAS's Mechanical, Manufacturing, and Mechatronics Engineering programs. Only thirteen new core courses will need to be created. Most of these new courses are offered in the third and the fourth years of the program (i.e. in academic years 2024-2025 and 2025-2026). In addition, the industrial engineering program will share the same common first year with all other engineering programs at Ontario Tech. The delivery mode of this program will be in-class.

c) Mission, Vision, Integrated Academic Plan, and Strategic Mandate Agreement (QAF 2.1.1a)

- *Describe how the program contributes to the University's Mission and Vision*
- *Explain how the program aligns with the goals and priorities outlined in the Faculty's(ies') and University's Integrated Academic Plans*
- *Identify how the program fits within one or more areas of strength or growth in Ontario Tech University's Strategic Mandate Agreement*

The mission of Ontario Tech is to "Provide superior undergraduate and graduate programs that are technology-enriched and responsive to the needs of students and the evolving workplace." Adding an Industrial Engineering program will contribute significantly to this mission and will address a strategic area of growth in the market demand for industrial engineers as explained in the previous section. In the profession of engineering, there is a growing need for engineers that have the necessary skills to meet the challenges of solving interdisciplinary problems. From automotive/transportation

1. https://www.bls.gov/ooh/architecture-and-engineering/industrial-engineers.htm

systems, to consumer products, to energy systems, industrial engineers play a key role in an ever-expanding range of engineering problems. It is imperative that Ontario Tech continues to evolve its programs to meet the needs of the modern workforce. The industrial engineering program will help the Faculty of Engineering and Applied Science (FEAS) and Ontario Tech to remain relevant in the job market and offer programs that the students need and the employers want. The program offers some unique courses, such as Industrial Cyber-Physical Systems (INSE 4248U), Human-System Integration (INSE 4170U), Industrial Data Analytics (INSE 3245U), Industrial Internet of Things (INSE 3142U), and Artificial Intelligence and Machine Learning (ENGR 3150U), that address the rapid industrial evolution and the use of artificial intelligence to solve real world industrial problems. These courses are just an example among many in the program that provide the students with unique learning outcomes to address the evolving workplace and fill a gap in knowledge that is otherwise overlooked in other industrial engineering programs. Thus, the development of an industrial engineering program has been identified as a strategic priority of FEAS to grow the students' enrollment while capitalizing on the strength of our existing programs, in particular, the manufacturing engineering program.

d) Student Demand

- *Provide evidence of student demand, including number of prospective student inquiries; applications and registrations for similar programs; results from surveys/focus groups of existing students, graduates, or professionals in the field*
- *Include information about domestic vs. international student interest*

There is already a clearly demonstrated demand amongst undergraduate students in Canada for industrial engineering. The number of undergraduate Industrial Engineering students in Canada has been consistently increasing over the last 5 years, which reflects the needs of the marketplace to industrial engineers[2]. For example, the growth percentage in the number of undergraduate Industrial Engineering students' enrolment in Canada has increased by 30.7% between 2015 and 2019. Moreover, as mentioned in the previous section, the proposed Industrial Engineering program offers unique courses that cover a knowledge gap that is otherwise overlooked in the other Industrial Engineering programs offered in Ontario. Therefore, it makes sense to build upon that and address the growing demand by employers for industrial engineers. This program will also allow Ontario Tech to grow enrollment.

Enrolment Information

- *Please complete Table 1 and provide, in paragraph form, information regarding enrolment projections*
- *Please determine the academic year when the program enrollment will reach a steady-state and add an asterisk (*) in the corresponding box beside the number*

2. https://engineerscanada.ca/reports/canadian-engineers-for-tomorrow-2019#total-undergraduate-student-enrolment

Table 1 presents the projected enrolment for the program. The numbers assume 15% attrition from Years 1 to 2, 5% attrition between Years 2 and 3, 50% net new registrations, 50% movement within existing programs, and +/- for Year 4 for internship and co-op.

Table 1: Projected Enrollment by Academic and Program Year

	Academic Year					
	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Level of Study						
1st year	40	50	60	60	60	60
2nd year		42	51	51	51	51
3rd year			48	48	48	48
4th year				47	47	47
Total Enrolment	40	92	159	206	206	206

e) Societal Need

- *Evidence of the need for graduates of the program and in which fields (within academic, public, and/or private sectors)*
- *Please indicate up to three occupations in which graduates from this proposed program may be employed using the Ontario Job Futures website*
- *For professional programs, a description of the program's congruence with current regulatory requirements*
- *Mention if any employers in the area support the need for this program and include a letter(s) of support as an additional appendix*

The skill sets that Industrial Engineers acquire are versatile. This allows them to engage in many different activities, such as supply chain management, quality assurance, and project management. These activities are becoming an integral part of many industries and engineering sectors in today's marketplace. Graduates of the Industrial Engineering program will have the expertise to work, analyze, and manage the work of others in areas of research, development, design, analysis, maintenance, and operations. These opportunities arise in a variety of industries and services including automotive, aerospace, heavy and precision machinery, machines and mechanisms, robotics and automation, power generations, oil and gas industries, chemical industries, transportation, information/telecommunications, health care systems, pharmacology, agriculture, construction and site development, and consumer products. Careers are available in private enterprise, as well as government and non-government organizations. Graduates may also choose to pursue further studies for higher degrees or start their own business.
Currently, employers such as GE, Ontario Power Generation, General Motors, Bombardier, and Magna, hire graduates from the existing Mechanical Engineering and

Manufacturing Engineering programs. The enhanced skillset offered by the proposed Industrial Engineering program will only increase the demand for Ontario Tech Industrial Engineering graduates.
As per all engineering programs offered by FEAS, the new Industrial Engineering program has been designed to meet the requirements of the Canadian Engineering Accreditation Board (CEAB).

f) Duplication

- *Describe how the program is distinct from other programs at Ontario Tech. Is it reasonable to anticipate this program might affect enrolment in other related programs? If so, how might this be addressed?*
- *Identify similar or complementary programs offered elsewhere in Ontario in Table 2. Please be brief but specific in the table. Avoid value-based statements*

Table 2: List of Similar Programs in Ontario

Institution Name	**Credential Level and Program Name**
University of Toronto	BASc in Industrial Engineering
Link to Program Web Page: **https://www.mie.utoronto.ca/programs/undergraduate/industrial-engineering/**	
Brief Program Description: As per the University of Toronto website: "The Industrial Engineering undergraduate program at MIE provides students with the foundations of industrial engineering: operations research, programming, and human-centered design. Students learn about improving various environments, from streamlining health-care systems to rethinking supply chains and the online user experience in the era of artificial intelligence. The Industrial Engineering program includes four years of coursework as well as an optional year in the Professional Experience Year (PEY) co-op program. Graduates of the Industrial Engineering undergraduate program receive a Bachelor of Applied Science degree."	
What differentiates the new program from this existing program: The University of Toronto's program is one of only three stand-alone Industrial Engineering programs in Ontario. The program is housed in the Department of Mechanical and Industrial Engineering at the University of Toronto. The UofT program's focus is on operation research and optimization, which is only one aspect of industrial engineering. Ontario Tech's program differs from the UofT program in the implementation of an innovative curriculum with the integration of some unique courses that address the rapid industrial evolution and the use of artificial intelligence to solve real world industrial problems. In addition, the Ontario Tech's program has heavy emphasis on engineering design. Design is the key function of engineers and Ontario	

Tech's FEAS MME engineering programs feature a core engineering design course in every year of the program. This is a signature feature of Ontario Tech's FEAS MME engineering programs and differentiates them from many other programs in the province.

Institution Name	Credential Level and Program Name
University of Windsor	BEng in Industrial Engineering

Link to Program Web Page:
https://future.uwindsor.ca/industrial-engineering

Brief Program Description:
As per the University of Windsor website:
"Industrial engineers answer the needs of organizations to operate efficiently and cost effectively. As an industrial engineer, you may use intelligent processes to streamline production systems or design flexible manufacturing approaches using a wide range of knowledge, including operations research, manufacturing sciences and enterprise resources planning/integration. The University of Windsor is one of only few institutions in Ontario to offer industrial engineering. Your education will begin with a broad base of fundamental sciences, mathematics and engineering knowledge in courses that are common to all programs. Our program will allow you to engineer how systems interact with one another"

What differentiates the new program from this existing program:
Windsor's program is one of only three stand-alone industrial engineering programs in Ontario. The program is housed in the Department of Industrial Engineering. Ontario Tech's program differs from the Windsor program in the implementation of an innovative curriculum with the integration of some unique courses that address the rapid industrial evolution and the use of artificial intelligence to solve real world industrial problems. In addition, the Ontario Tech's program has heavy emphasis on engineering design. Design is the key function of engineers and Ontario Tech's FEAS MME engineering programs feature a core engineering design course in every year of the program. This is a signature feature of Ontario Tech's FEAS MME engineering programs and differentiates them from many other programs in the province.

Institution Name	Credential Level and Program Name
Ryerson University	BEng in Industrial Engineering

Link to Program Web Page:
https://www.ryerson.ca/programs/undergraduate/industrial-engineering

Brief Program Description:
As per Ryerson University website:
"As an industrial engineer, you'll learn how to apply science, mathematics and engineering methods, and have the ability to work with people and understand the system perspective in the design of systems operation. Study computer simulation, production planning, operations research, quality control, ergonomics, information systems, project management and more as you work to make society better, safer and more efficient. As part of your bachelor of engineering (BEng) degree, you can receive valuable work experience by participating in an optional paid co-operative internship program. In third year, you'll gain specialized knowledge, including

operations research, facilities design, experimental design and quality assurance, data analytics and industrial ergonomics. In fourth year, in addition to gaining knowledge in several areas such as information systems, production inventory systems, service operations management and project management, you'll work on a dynamic team-based project. You'll have access to leading-edge labs and facilities, leaving you well-equipped to launch an exciting career"

What differentiates the new program from this existing program:

Ryerson's program is one of only three stand-alone industrial engineering programs in Ontario. The program is housed in the Department of Mechanical and Industrial Engineering. Ontario Tech's program differs from the Ryerson program in the implementation of an innovative curriculum with the integration of some unique courses that address the rapid industrial evolution and the use of artificial intelligence to solve real world industrial problems. In addition, the Ontario Tech's program has heavy emphasis on engineering design. Design is the key function of engineers and Ontario Tech's FEAS MME engineering programs feature a core engineering design course in every year of the program. This is a signature feature of Ontario Tech's FEAS MME engineering programs and differentiates them from many other programs in the province.

- *Provide additional overall comment on the justification for this duplication*

Currently, only Ryerson University, University of Toronto, and University of Windsor offer standalone accredited undergraduate programs in Industrial Engineering in Ontario. There is clearly a need in Ontario, and in particular the eastern half of the Greater Toronto Area (GTA), for additional universities to offer standalone industrial programs. Ontario Tech is well positioned to meet this need.

Although there is always a possibility of offering programs in conjunction with other institutions, in the case of the proposed program this would not be necessary. This program will benefit from our existing manufacturing engineering program, which is the only accredited undergraduate program in Manufacturing Engineering in Canada.

2 Program Requirements

a) Admission Requirements

- *Outline the formal admission requirements; explain how these are appropriate for the program learning outcomes: How will they help to ensure students are successful? How do they align with the learning outcomes of the program? (QAF 2.1.2a)*
- *Explain any additional requirements for admission to the program such as special language, portfolio, etc. (and how the program recognizes prior work or learning experience, if applicable) (QAF 2.1.1b)*
- *If this is not a direct-entry from high-school program, please explain*

Like all other engineering programs, this Industrial Engineering program requires strong foundation in English, Math and Physics. That is why current Ontario secondary school students must complete the Ontario Secondary School Diploma (OSSD) with six 4U or 4M credits including English (ENG4U) with a minimum average of 60 per cent, Advanced Functions (MHF4U), Calculus and Vectors (MCV4U), Chemistry (SCH4U) and Physics (SPH4U). In addition, a combined minimum 70 per cent average in math and science courses is required, with no grade below 60 per cent. For details about applicants with credentials from outside Ontario, please see the admissions section of Future Students at www.ontariotechu.ca.

b) Program Learning Outcomes and Assessment of Student Knowledge (QAF 2.1.1b, 2.1.6)

- ***Connect with the Academic Planning Officer in CIQE (ciqe@ontariotechu.ca) early in the program development to review learning outcomes***
- *In Table 3 below, please describe what the student will know or be able to do (knowledge, methodologies, and skills) by the end of the program and indicate how that knowledge or skill will be demonstrated*
- *An example has been provided in purple in the first row and can be removed.*

Degree Level Expectations are set by the Quality Council of Ontario and should not be modified. For the list of and more information on these expectations, including a detailed description, visit their website.

Table 3: Program Learning Outcomes

Program Learning Outcomes By the end of the program, students graduating will be able to… (normally 6-8 outcomes per program with 12 being the maximum)	Degree Level Expectations (list all that apply; you must align with each expectation at least once)	Relevant courses (provide course code and course title)	Assessment of Learning Outcomes (e.g. test, rubric, self-assessment, etc.)
Apply knowledge of mathematics, physics, chemistry, engineering science, and engineering design to identify, formulate, analyze, and solve problems	Depth and Breadth of Knowledge	Particularly core courses in Years 1 to 4, including: MATH 1010U – Calculus I ENGR 1015U – Introduction to Engineering PHY 1010U - Physics I ENGR 1025U – Engineering Design MATH 1020U – Calculus II PHY 1020U – Physics II	-In-class quizzes, assignments, midterm and final exams for MATH 1010U, PHY 1010U, MATH 1020U, PHY 1020U, CHEM 1800, MATH 2860U, ENGR 2100U. - In-class quizzes, assignments, laboratory reports, course project, midterm and final

		CHEM 1800U – Chemistry for Engineers MATH 2860U – Differential Equations for Engineers ENGR 2100U – Computational Engineering Applications	exams for ENGR 1015U, ENGR 1025U.
Understand and apply the engineering design, manufacturing, and production processes to industrial engineering systems	Knowledge of Methodologies	Core design courses featuring a design project, including: ENGR 1025U – Engineering Design INSE 3115U – Workplace and Facilities Design INSE 3140U – Lean Production Systems Engineering INSE 4170U – Human-System Integration ENGR 4970U Capstone System Design for Industrial Engineering I ENGR 4971U Capstone System Design for Industrial Engineering II	-In-class quizzes, midterm, assignments, lab reports, course project and final exam for ENGR 1025U, INSE 3115U, INSE 3140U, INSE 4170U. -Progress reports, final report, final poster, flyer, building prototype and presentation for ENGR 4970U, ENGR 4071U.
Make use of computer-aided engineering software tools to solve problems and to acquire and process data	Knowledge of Implementation Tools and Procedures	Core courses that teach and utilize engineering software tools, including: ENGR 1200U – Introduction to Programming for Engineers SOFE 2710U – Object Oriented Programming and Design	-Assignments, case study and course project for ENGR 1200U, SOFE 2710U - Course project for ENGR 2100U, INSE 3142U - Assignments for INSE 2210U, STAT 2800U, INSE 3110U

		ENGR 2100U – Computational Engineering Applications INSE 2210U – Operations Research I STAT 2800U – Statistics and Probability for Engineers INSE 3110U – Operations Research II INSE 3142U – Industrial Internet of Things ENGR 3150U – Applied Artificial Intelligence and Machine Learning INSE 3245U – Industrial Data Analytics	- Assignments and Course projects for ENGR 3150U, INSE 3245U.
Demonstrate strong independent learning and analytical skills and be an effective member of multi-disciplinary and multi-cultural teams, either as a team member, system analyst or as a project manager	Application of Knowledge	ENGR 4970U Capstone System Design for Industrial Engineering I ENGR 4971U Capstone System Design for Industrial Engineering II	-Progress reports and final report for ENGR 4970U, -Progress reports, final report and building prototype for ENGR 4971U
Communicate effectively in written, spoken, and visual form with both technical experts and with members of the general public on engineering matters	Communication Skills	COMM 1050U – Technical Communication ENGR 4970U Capstone System Design for Industrial Engineering I ENGR 4971U Capstone System Design for Industrial Engineering II	- Assignments for COMM 1050U -Progress reports, final report and presentation for ENGR 4970U, -Progress reports, final report, final poster, flyer, prototype demonstration, exhibition and presentation for ENGR 4971U

Recognize and describe the value of alternative outlooks that people from various social, ethnic and religious backgrounds, as well as professions, may bring to industrial engineering. Understand and apply various knowledge and methodologies for design, analysis and assessment purposes, social, environmental and economic impact assessments.	Awareness of Limits of Knowledge	SSCI 1470U – Impact of Science and Technology on Society INSE 4170U – Human-System Integration MANE 3460U – Industrial Ergonomics INSE 3115U - Workplace and Facility Design, ENGR 3360U – Engineering Economics INSE 2110U- Health, Safety and Sustainability for Engineers	- Assignments for SSCI 1470U, INSE 2110U, MANE 3460U, INSE 4170U - Course project for INSE 3115U and MANE 3460U -Case study and assignments for ENGR 3360U
Demonstrate an appreciation for the importance of new and emerging energy technologies, and the strategies and policies available for lifelong learning, learn and apply the social, environmental, ethical, economic and sustainability dimensions for better engineering practices.	Autonomy and Professional Capacity	ENGR 4760U – Ethics, Law and Professionalism for Engineers ENGR 4760U, ENGR 4970U, ENGR 4971U	- In-class quizzes and case study for ENGR 4760U - Reports and presentation for ENGR 4970U - Reports, presentation demonstration of the prototype for ENGR 4971U

- *Selecting a few examples from above, explain in detail how the program design and requirements support the attainment of the Program Learning Outcomes (QAF 2.1.1b)*
- *With assistance from the Academic Planning Officer in CIQE (ciqe@ontariotechu.ca), please provide further details on the Assessment of the Program Learning Outcomes, as outlined in the Quality Council's Quality Assurance Framework Section 2.1.6 - Assessment of Teaching and Learning:*

- *QAF 2.1.6a: Appropriateness of the proposed methods for the assessment of student achievement of the intended program learning outcomes and Degree Level Expectations (How will students demonstrate they have learned and can do what we expect them to by the end of the program?).*
- *QAF 2.1.6b: Completeness of plans for documenting and demonstrating the level of performance of students, consistent with the Degree Level Expectations (How will the effectiveness of the program be assessed?)*

The new industrial engineering program is designed to meet the requirements set-forth by the Canadian Engineering Accreditation Board (CEAB). The CEAB currently uses an outcome-based model for accreditation purposes. As part of this process, the CEAB has identified 12 Graduate Attributes (Gas)as follows:

1. Knowledge Base for Engineering
2. Problem Analysis
3. Investigation
4. Design
5. Use of Engineering Tools
6. Individual and Team Work
7. Communication Skills
8. Professionalism
9. Impact of Engineering on Society and the Environment
10. Ethics and Equity
11. Economics and Project Management
12. Life-Long Learning

In every course, the Course GAs are first identified, and the levels of their coverages are determined as appropriate [introduced (I), developed (D), applied (A), or NA], along with that a brief description of the content covered in support of each graduate attribute is also provided. The next step is to link Course Outcomes (Course GA Indicators) to Faculty GA Indicators and CEAB GAs. The following step is to provide the Performance Levels and Methods of Measurement under the Course Outcomes (Course GA Indicators). The next one becomes an evaluation on the Performance Level Grading Rubric for Course Outcomes (Course GA Indicators). These are illustrated through the graphs and evaluated accordingly. In the second part, the course contributions to graduate attributes and continual improvement – results are presented and evaluated accordingly for the subject matter courses. In this regard, the Performance Level Breakdowns for Course Outcomes (Course GA Indicators) and Improvement Assessment for the Year Assessed are tabulated for evaluation accordingly.

The following example given for MANE 3460U-Industrial Ergonomics, which is a key course in this program, to illustrate the above listed process and provide a clear description.

Table 1a. Course Graduate Attributes and Level of Coverage in Course

CEAB Graduate Attribute (GA)	Level of Coverage in Course "IDA"	Brief Description of Content Covered Broken Down by Graduate Attribute (to Explain Level of Coverage Claimed)
A Knowledge Base for Engineering (KB)	ID	Provide engineering students with basic understanding of ergonomics
Problem Analysis (PA)	D	Provide engineering students with ergonomic problems to be analysed and solved.
Investigation (Inv.)		
Design (Des.)	DA	design project
Use of Engineering Tools (Tools)	DA	Ergonomics tools
Individual and Team Work (Team)	DA	Individual work on tests, team work for design project.
Communication Skills (Comm.)	D	Written and graphical communication via project reports and presentations
Professionalism (Prof.)		
Impact of Engineering on Society and the Environment (Impacts)	D	related social issues
Ethics and Equity (Ethics)		
Economics and Project Management (Econ.)		
Life-long Learning (LL)		

Table 1b. Course Outcomes (Course GA Indicators) and their Link to Faculty GA Indicators and CEAB GAs

Course Outcome (Course GA Indicator)	Faculty GA Indicator Supported (Main Ones in Bold)	CEAB GA Supported Significantly (D and/or A Level of Coverage)
Understand the principals of work design and work measurement. Use several effective engineering methods to improve worker performance, health and safety while maintaining productivity.	**Knowledge Base (c)**	Knowledge Base
Solve ergonomicall related problems	**Problem Analysis (a)**	Problem Analysis
Design a job and the workplace to fit the human	**Design (a) (b) (c)**	Design
Using ergonomics tools	**Use of Engineering Tools (a) (b)**	Use of Engineering Tools
Work as a team as well as individually	**Individual and team work (c)**	Individual and Team work
Demonstrate communication skills through presenting ergonomic project.	**Communications (a)**	Communications
Understand the impact of ergonomics solutions in a global and societal context and critically review own capabilities and determine areas for development.	**Impact to the society (a)**	Impact to the society

Table1c. Course Outcomes (Course GA Indicators) and Performance Levels and Methods of Measurement

Course Outcome (Course GA Indicator)	Performance Level Definition Used	Method of Measurement of Performance Level
1- Understand the principals of work design and work measurement. Use several effective engineering methods to improve worker performance, health and safety while maintaining productivity.	3 (Exceeds expectations): ≥80% 2 (Adequately meets expectations): 60-80% 1 (Minimally meets expectations): 50-60% 0 (Fails to meet expectations): <50%	Quizzes 1- 5 Midterm Exam: Multiple Choice Questions and Part 2: Question 2 Final Exam: Multiple Choice Questions and Part 2: Questions 1 - 6
2-Solve ergonomicall related problems	3 (Exceeds expectations): ≥80% 2 (Adequately meets expectations): 60-80% 1 (Minimally meets expectations): 50-60% 0 (Fails to meet expectations): <50%	Assignments 2 & 5 Midterm Exam Part 2: Questions 2 and 3 Final Exam Questions Part 2: 7 - 10
3-Design a job and the workplace to fit the human	3 (Exceeds expectations): ≥80% 2 (Adequately meets expectations): 60-80% 1 (Minimally meets expectations): 50-60% 0 (Fails to meet expectations): <50%	Design component of course Project Self-study topics Assignment 5 Final Exam: Question 7
4.Using ergonomics tools	3 (Exceeds expectations): ≥80% 2 (Adequately meets expectations): 60-80% 1 (Minimally meets expectations): 50-60% 0 (Fails to meet expectations): <50%	CAD portion of course project Mid-term: Question 4

5-Work as a team as well as individually	3 (Exceeds expectations): ≥80% 2 (Adequately meets expectations): 60-80% 1 (Minimally meets expectations): 50-60% 0 (Fails to meet expectations): <50%	Project Collaboration
6-Demonstrate communication skills through presenting ergonomic project.	3 (Exceeds expectations): ≥80% 2 (Adequately meets expectations): 60-80% 1 (Minimally meets expectations): 50-60% 0 (Fails to meet expectations): <50%	Presentation of the project
7. Understand the impact of ergonomics solutions in a global and societal context and critically review own capabilities and determine areas for development.	3 (Exceeds expectations): ≥80% 2 (Adequately meets expectations): 60-80% 1 (Minimally meets expectations): 50-60% 0 (Fails to meet expectations): <50%	Social impact portion of Design Project

Table 1d. Performance Level Grading Rubric for Course Outcomes (Course GA Indicators)

Course Outcome (Course GA Indicator)	Performance Level
Understand the principals of work design and work measurement. Use several effective engineering methods to improve worker performance, health and safety while maintaining productivity.	3: Excellent performance in course (≥80%) 2: Good to very good performance in course (60-80%) 1: Marginally acceptable performance in course (50-60%) 0: Unacceptable performance in course (<50%)
Solve ergonomicall related problems	3: Excellent performance in course (≥80%) 2: Good to very good performance in course (60-80%) 1: Marginally acceptable performance in course (50-60%) 0: Unacceptable performance in course (<50%)

Design a job and the workplace to fit the human	3: Excellent performance in course (≥80%) 2: Good to very good performance in course (60-80%) 1: Marginally acceptable performance in course (50-60%) 0: Unacceptable performance in course (<50%)
Using ergonomics tools	3: Excellent performance in course (≥80%) 2: Good to very good performance in course (60-80%) 1: Marginally acceptable performance in course (50-60%) 0: Unacceptable performance in course (<50%)
Work as a team as well as individually to solve ergonomicall related problems	3: Excellent performance in course (≥80%) 2: Good to very good performance in course (60-80%) 1: Marginally acceptable performance in course (50-60%) 0: Unacceptable performance in course (<50%)
Demonstrate communication skills	3: Excellent performance in course (≥80%) 2: Good to very good performance in course (60-80%) 1: Marginally acceptable performance in course (50-60%) 0: Unacceptable performance in course (<50%)
Understand the impact of ergonomics solutions in a global and societal context and critically review own capabilities and determine areas for development.	3: Excellent performance in course (≥80%) 2: Good to very good performance in course (60-80%) 1: Marginally acceptable performance in course (50-60%) 0: Unacceptable performance in course (<50%)

Table 2. Performance Level Breakdown for Course Outcomes (Course GA Indicators) and Improvement Assessment for the Year Assessed

Course Outcome (Course GA Indicator)	Performance Level Breakdown (Student Numbers)*	Analysis, Conclusions and Recommendations
1- Knowledge Base	KB / >80% 110 77% / 60%-80% 22 15% / 50%-60% 11 8% / <50% 0 0% / total 143	Analysis and Conclusions: Most students can successfully achieve this objective. Recommendations for the course: None. Recommendations for Program: None
2- Problem Analysis	PA / >80% 110 77% / 60%-80% 22 15% / 50%-60% 11 8% / <50% 0 0% / total 143	Analysis and Conclusions: Most students can successfully achieve this objective. Recommendations for the course: None. Recommendations for Program: None
3- Design	Design / >80% 83 58% / 60%-80% 45 31% / 50%-60% 13 9% / <50% 2 1% / total 143	Analysis and Conclusions: Most students can successfully achieve this objective. Recommendations for the course: Add more assignments involving the design aspect. Recommendations for Program: None
4. Use of Engineering Tools	Tools / >80% 110 77% / 60%-80% 22 15% / 50%-60% 9 6% / <50% 2 1% / total 143	Analysis and Conclusions: Most students can successfully achieve this objective. Recommendations for the course: Add more minor projects in addition to the term project. Recommendations for Program: None

5- Individual and team work	<table><tr><td>Team</td><td></td><td></td></tr><tr><td>>80%</td><td>55</td><td>38%</td></tr><tr><td>60%-80%</td><td>77</td><td>54%</td></tr><tr><td>50%-60%</td><td>9</td><td>6%</td></tr><tr><td><50%</td><td>2</td><td>1%</td></tr><tr><td>total</td><td>143</td><td></td></tr></table>	Analysis and Conclusions: Most students can successfully achieve this objective Recommendations for the course: None Recommendations for Program: None
6- Communication Skills	<table><tr><td>Com</td><td></td><td></td></tr><tr><td>>80%</td><td>55</td><td>38%</td></tr><tr><td>60%-80%</td><td>77</td><td>54%</td></tr><tr><td>50%-60%</td><td>9</td><td>6%</td></tr><tr><td><50%</td><td>2</td><td>1%</td></tr><tr><td>total</td><td>143</td><td></td></tr></table>	Analysis and Conclusions: Most students can successfully achieve this objective Recommendations for the course: None Recommendations for Program: None
7. Impact of Engineering on Society and the Environment (Impacts)	<table><tr><td>Impact</td><td></td></tr><tr><td>>80%</td><td>46</td></tr><tr><td>60%-80%</td><td>89</td></tr><tr><td>50%-60%</td><td>4</td></tr><tr><td><50%</td><td>4</td></tr><tr><td>total</td><td>143</td></tr></table>	Analysis and Conclusions: Most students can successfully achieve this objective Recommendations for the course: None Recommendations for Program: None

In addition to showing there is sufficient lecture, lab, and tutorial hours in the areas of Mathematics, Basic Science, Engineering Science, Engineering Design, and Complementary Studies, all engineering programs in Canada must demonstrate how the 12 Graduate Attributes listed above are covered in their program.

Tables for the Accreditation Units (AU) breakdown and the CEAB Graduate Attributes can be found in Appendix A.

- *Please attach, as an Appendix, the Program Learning Outcome Alignment Map to Degree Level Expectations – see appendix A*
- *If the program is to be accredited, include with the above information about the accreditation requirements and add the accreditation tables, if available, as an Appendix.*

c) Program Structure and Content

- *Describe the requirements and structure of the program. Is it full-time/part-time? Is this an online or partially online/hybrid program? What are the unique curriculum or program innovations or creative components in this program? (QAF 2.1.4b)*

- *Address how the program's structure will help students to meet the program learning outcomes and Degree Level Expectations (QAF 2.1.3a)*

The new industrial engineering program structure will be similar to all Engineering programs in FEAS. The program will have a common first year courses for all engineering disciplines providing the background and multiphysics knowledge base. In addition, industrial engineering students will have introduction to engineering and core design courses in the first two years of the program. Currently, the Curriculum Committee is revising the ENGR 1015U which will include indigenous component and introduction to equity, diversity and inclusion (EDI). In this course, the indigenous and EDI added components are planned to be delivered through online modules and will have more emphasis on the labs. Thus, will be the first engineering hybrid course offered. The fundamental concepts in this program map is to integrate cyber and physical components in industrial engineering systems. This includes integrations of computation, networking, and physical processes. Since industrial engineering deals with elements from mathematics, statistics, manufacturing, mechanical, mechatronics, electrical, software, and control, the industrial engineering program features courses from all of these disciplines. The program maps for the BEng Industrial Engineering and the BEng Industrial Engineering and Management programs can be found in Appendix B.

- *Describe the ways in which the curriculum addresses the current state of the discipline (QAF 2.1.4a)*

The Faculty of Engineering and Applied Science is one of a handful of universities in Canada that offers an accredited Manufacturing Engineering program. Based on the available resources, experience, and considering the increasing demand from the industry, it has been determined that offering an Industrial Engineering program is beneficial and invites more students to the Ontario Tech engineering community. The program provides graduates with the knowledge and skills required to work in wide spectrum of high-tech companies requiring the combination of technical and system analytics skills aligned with the needs of advanced cyber-physical systems, industry 4.0, and factories of the future.

Developed in consultation with industry, the industrial engineering curriculum provides a solid grounding in the fundamentals of mathematics, computing and science, with significant content in engineering sciences, design, and analysis. In addition to classroom lectures, students participate in tutorials, laboratories, computer simulations, field visits, independent research and design tasks, individual and group projects, as well as presentations to both technical and non-technical audiences.

Complementary studies including liberal studies electives, collaborative leadership, economics, and ethics and law for professionals promote a broader understanding of the needs of society and technology's impact on it. Students gain technical expertise along

with the understanding of business and humanities required for an integrated approach to Industrial Engineering.

- *Is there an experiential learning component (e.g. workplace learning, co-op, internship, field placements, service learning, mandatory professional practice) to the program? If yes, please describe this component in 2500 words or less. Include confirmed partners, duration of the experiential learning component(s), and projected number of placements (where applicable)*

The Engineering Co-Op and Internship Office is committed to supporting eligible students enrolled in all Engineering programs, as well as students in the Health Physics and Radiation Science program at Ontario Tech University. Their goal is to assist in all aspects of finding an appropriate Co-Op or Internship placement that provides valuable engineering work experience while completing an undergraduate degree program.

Our programs incorporate engineering co-op opportunities to gain invaluable working experience prior to graduation. These experiential learning opportunities range in duration from 4-16 months. Students in the co-op stream who successfully complete 3 work terms will graduate with the Co-operative Education designation on their degree parchment.

Currently we have over 100 companies where our students have taken co-op. These companies include, for example, OPG, Bruce Power, Enbridge, GM, Toyota, Tesla, and Bombardier.

- *Describe how the potential need to provide accessibility accommodations has been considered in the development of this program; please provide information beyond the services offered by Student Accessibility Services*

Existing FEAS resources will handle all student support requirements, such as Academic Advising.

d) Calendar Copy with Program Map(s)

- *Provide, as an Appendix using the template provided, a clear and full calendar copy. The template ensures consistency across all programs in the Academic Calendar*
  - *Note that pathway (Bridge/Advanced Entry) programs will require a separate, usually shorter, section in the Calendar; please be sure to include one entry for each program type. Pathway Calendar example*
  - *New Minors, Co-op programs, or other alternatives have additional Calendar entries. Should you be including these items, please contact CIQE for more information and templates*

- *Provide, as an Appendix, a full list of the all courses included in the program including course numbers, titles, and descriptions. Please indicate clearly whether they are new/existing. Include full course proposals for new courses, and the most recent course syllabi for existing courses. If you are making changes to existing courses, include instead a course change form. In an appendix noted below, you will note which faculty members are expected to teach in the program and who is responsible for developing any new courses.*

Please see Appendix B for proposed calendar copy. Please see Appendix C for a full list of courses in the program.

3 Consultation

- *Describe the expected impact of the new program on the nature and quality of other programs delivered by the home and collaborating Faculty(ies) and any expected impact on programs offered by other Faculties*
- *Outline the process of consultation with the Deans of Faculties that will be implicated or affected by the creation of the proposed program*
- *Provide letters of support for the program from Deans at Ontario Tech and/or from other institutions/partners*

We don't expect significant impact on other engineering programs. However, there will be some impact on the enrollment of the first-year engineering courses and well as some of the upper year common courses. It is important to note that most of these courses are running in more than one section and addition 30 (expect) students will not present a challenge. The Dean of Science is aware of this program initiative and the Dean's office has planned for the expected enrollment. The proposal was shared with members of the department industry advisory board (IAB) for feedback. All members of the IAB have unanimously praised the program, as it will address the current need in the market place for industrial engineers with interdisciplinary and innovative skill sets that will be covered in the current program. Please see the support letters from industry in Appendix G.

Does this Program contain any Indigenous content? ☒ Yes ☐ No ☐ Unsure
For more information on how Indigenous content is defined at Ontario Tech University and how to consult with the Indigenous Education Advisory Circle (IEAC), please refer to the Protocol for Consultation with the Indigenous Education Advisory Circle.

Has the IEAC been contacted ☒ Yes ☐ No

If yes, when?

Currently, the first-year engineering course "ENGR 1015U: Introduction to Engineering" is under review with a goal to introduce Indigenous components as an introduction to Indigenous history in Canada and the duty of engineers to consult with Indigenous groups will be added. This is meant to be a brief introduction to this complex topic with the goal of making engineering students aware of the major issues concerning Indigenous peoples and the duty of engineers to consult with them on projects that may affect them. The changes in this course will impact this program as well as other engineering programs at Ontario Tech. Initial discussions have started with IEAC and we will ensure that we work with IEAC to determine the material content and the best way to deliver it.

There are other opportunities for incorporating Indigenous content into the curriculum; these will be discussed with the IEAC before implementation. These include: (1) The capstone course coordinator inviting projects from Indigenous communities, which will provide more opportunity for Indigenizing the curriculum and provide students with the needed exposure and skills.

What was the advice you received from the IEAC, and how has it been included in your proposal?

Please see above, discussions are on-going.

Did the IEAC ask you to return the proposal to them for review? ☐ Yes ☒ No

If yes, have they completed their review? ☐ Yes ☐ No ☒ N/A

4 Resource Requirements (QAF 2.1.7, 2.1.9, 2.1.10)

a) General Resource Considerations

- *Note here if this new program may impact enrolment agreements with other institutions/external partners that exist with the Faculty/Provost's office*
- *Indicate if the new program will require changes to any existing agreements with other institutions, or will require the creation of a new agreement. Please consult with CIQE (ciqe@ontariotechu.ca) regarding any implications to existing or new agreements.*

The proposed Industrial Engineering program has no impact on enrollment agreements with other institutions/external partners.

b) Faculty Members - Current and New Faculty Requirements

- *Complete as an Appendix, using the Faculty Information template provided, a chart detailing the list of faculty committed to the program and provide any additional details, in paragraph form, if necessary below*
- *Include here a brief statement to provide evidence of the participation of a sufficient number and quality of faculty who will actively participate in the delivery of the program*
- *Describe the role of any sessional faculty,*
- *Explain the provision of supervision of experiential learning opportunities*
- ***Describe the plan and commitment to provide additional faculty resources to support the program, if needed***
- *Indicate that faculty CVs are included in an Appendix, and please provide CVs for all faculty committed to the program*

The majority of faculty members required for the program will come from FEAS's existing complement of faculty members. FEAS will be requesting two tenure-track faculty members to teach in the new program.

The following Department of Mechanical and Manufacturing Engineering faculty may be involved in the program:

- Jana Abou-Ziki, BSc, PhD (Concordia)
- Martin Agelin-Chaab, BSc, MEng, MSc, PhD (Manitoba), PEng
- Ahmad Barari, BSc, MSc, PhD (Western), PEng
- Ibrahim Dincer, BSc, MSc, PhD (Istanbul Technical), PEng
- Naglaa Elagamy, BSc, MASc, PhD (Carleton)
- Ramona Fayazfar, BSc, MSc, PhD (Sharif University of Technology)
- Kamiel Gabriel, BSc, MSc, MBA, PhD (Manitoba), PEng
- Sayyed Ali Hosseini BSc, MSc, PhD (Ontario Tech), PEng
- Dima Jawad, BE, MSc, PhD (Rutgers)
- Anand Joshi, BS, MS, PhD (Indian Institute of Technology Delhi), PEng
- Amirkianoosh Kiani, BSc, MSc, PhD (Ryerson University), PEng
- Seema Koohi, BASc, MASc, PhD (Ontario Tech), PEng
- Brendan MacDonald, BASc, MASc, PhD (Toronto)
- Atef Mohany, BSc, MSc, PhD (McMaster), PEng
- Remon Pop-Iliev, BASc, MASc, PhD (Toronto), PEng
- Bale Reddy, BTech, MTech, PhD (Indian Institute of Technology)
- Ghaus Rizvi, BE, MS, MASc, PhD (Toronto), PEng
- Marc Rosen, BASc, MASc, PhD (Toronto), PEng
- Yuelei Yang, BEng, MS, PhD (Cincinnati), PEng

The following Department of Automotive and Mechatronics Engineering faculty may be involved in the program:

- Murat Aydin, BSc, MS, PhD (Imperial College)

The following Department of Electrical, Computer, and Software Engineering faculty may be involved in the program:

- Mikael Eklund, BSc, MSc, PhD (Queen's), PEng
- Walid Morsi Ibrahim, BSc, MSc, PhD (Dalhousie), PEng
- Qusay Mahmoud, BSc, MCS, PhD (Middlesex, UK), PEng
- Shahryar Rahnamayan, BSc, MSc, PhD (Waterloo), PEng

The following Faculty of Science faculty members may be involved:

- Mihai Beligan, PhD
- Rupinder Brar, PhD
- Paula Di Cato, MSc
- Nicholas Faulkner
- Franco Gaspari, PhD
- Brian Ikeda
- Ilona Kletskin, MSc
- Nelson Lafreniere, PhD
- Joseph MacMillan, PhD
- Azar Shakoori, PhD
- Issac Ye

The following Faculty of Social Science & Humanities

- Andrew Muncaster
- Antoine Scholtz
- Maggie Reber

Please refer to Appendix D for Detailed Listing of Faculty Committed to the Program

c) Additional academic and non-academic human resources

- *Give details regarding the nature and level of Sessional Instructor and TA support required by the program, the level of administrative and academic advising support, etc.*
- ***Please describe the plan and commitment to provide additional resources to support the program, if needed***

As per the other BEng programs at Ontario Tech, FEAS will continue to make use of service courses offered by the Faculty of Science and the Faculty of Social Sciences and Humanities. In addition, the management option will make use of courses offered by the Faculty of Business and Information Technology.

All administrative support and technical support for the programs will come from existing FEAS personnel.

d) Existing student supports

Ontario Tech University, as a relatively small campus community, has a centralized delivery model for student supports. All undergraduate students have access to an extensive support system that ensures a quality student experience. Each Faculty may provide additional, Faculty- or program-specific supports. In addition to the outlined services below, students may also take advantage of the Campus Childcare Centre, Campus Bookstores, Housing and Living Resources, as well as the Student Union. Further information can be found at: http://studentlife.ontariotechu.ca/

Faculty-Specific Support

Academic Advising

Please provide details on your Faculty Academic Advising Office and supports, and any Faculty-specific student support services (e.g. peer mentoring, 'coffee chats', study groups, etc.).

Academic Advising is currently being reorganized. Emphasis will be made on proactive advising thru central training of all our advisors.

The FEAS Academic Advising Office empowers all engineering students to take ownership of their education by providing personalized, comprehensive academic advising in a confidential and safe environment. The office strives to promote the personal growth of students by instilling a sense of responsibility and independence.

The FEAS Academic Advising Office is comprised of four full-time advisors. They include one First Year Advisor and three Upper Years Advisors, as well as a Manager, Academic Advising who oversees the advising unit in the Faculty of Engineering and Applied Science and the Faculty of Science.

The advisors provide the following services:

- Addresses questions and concerns related to all aspects of student life
- Helps establish realistic educational goals and future planning
- Assists in appropriate course planning and sequencing according to the approved program map
- Assess and discusses academic performance, progress, and standing
- Provides strategies and resources for academic success
- Interprets academic policies and procedures
- Ensures all degree requirements are met for timely and successful graduation

Student Life

Student Learning Centre

The Student Learning Centre fosters a high level of academic excellence in the Ontario Tech University community by working with all Ontario Tech University students, undergraduate and graduate, to achieve educational success. Foundational knowledge and prerequisite skills are essential to all university-level courses, and competency with these skills is vital for strong academic performance. Faculty specific academic resources are available online and include tip sheets and videos. The subject specialists offer in-person support services in mathematics, writing, study skills, ESL and physics. With the additional support of peer tutors and workshops, the Centre can further accommodate the needs of a specific course or program.

Student Accessibility Services

Student Accessibility Services (SAS) works collaboratively to ensure that students with disabilities have equal opportunities for academic success. SAS operates under the Ontario Human Rights Code (OHRC) and the Accessibility for Ontarians with Disabilities Act (AODA). Services are provided for students with documented disabilities. Accommodation supports include but are not limited to:

- Adaptive technology training
- Alternate format course material
- Learning skills support
- Testing support
- Transition support for incoming students

SAS also provides inclusive peer spaces, support groups, and skills workshops for students.

Careers and Internships

The Career Centre offers comprehensive career service assistance, co-op and internship support and resources, and a variety of valuable resources to help students along their career paths, including:

- Assistance with creating effective job-search documents
- Career Counselling
- Co-op and internship job search advising
- Interview preparation
- Job market information
- Job search strategies

A variety of events are hosted on campus during the academic year including employer information and networking sessions, job fairs, and interviews conducted by leading employers.

Student Engagement and Equity
Student Engagement and Equity supports students' successful transition into the university and provides opportunities for them to develop leadership and professional skills throughout their university career. Services provided through Student Engagement and Equity include:

- Orientation and events through first year
- Specialized programming for first-generation, graduate, Indigenous, international, mature, online, transfer, and diploma-to-degree pathways students
- Services and supports for international and exchange students
- Equity and inclusivity programming and support groups
- Assistance and advice for living off-campus
- Peer mentoring to help students through first year
- Opportunities to grow and develop leadership skills through the Ambassador and Peer Mentorship program

Student Mental Health Services
Student Mental Health Services helps students learn how to better manage the pressures of student life. Students can:

- Attend a drop-in session
- Participate in events and activities or support groups that promote positive health and well-being
- Access tools and resources online to learn about mental health and how to maintain good health and wellness
- Work with a mental health professional to address concerns
- Contact the Student Lifeline for immediate help and assistance
- Get answers to frequently asked questions about mental health

Student Mental Health Services offers short-term counselling and therapy services to students. Students in distress will also be provided with support and counselling as needed. There is no cost to students and services are confidential. For those who need long-term counselling support or specialized mental health services, Ontario Tech University will provide referrals to assist the student in accessing resources in the local community or in the student's home community.

Athletics and Recreation Facilities
Ontario Tech University offers a number of recreation facilities and fitness opportunities to meet all lifestyles and needs. On-campus facilities include the state-of-the-art FLEX Fitness Centre which overlooks Oshawa Creek, five gymnasiums, a 200-metre indoor track, two aerobic/dance studios, the Campus Ice Centre, Campus Fieldhouse, a soccer pitch, a fastball

diamond, squash courts and an indoor golf training centre. Students are able to participate in varsity and intramural sports as well as group fitness classes and personal training sessions.

Campus Health Centre

The Campus Health Centre provides assistance in numerous confidential health-care options including:

- A medical clinic with daily access to physician and nursing staff
- Treatment of disease, illness, and injury
- Allergy injections, immunizations, and influenza injections
- Complementary Health Services featuring acupuncture, chiropractic, custom orthotics, massage therapy, nutritional counselling, and physical therapy
- An on-site laboratory (blood work, STI testing, throat swabs, etc.)
- Gynaecological health-care and prescriptions

Student Awards and Financial Aid

Student Awards and Financial Aid (SAFA) is dedicated to helping students understand the variety of options available to finance their education. Budgeting and financial planning are essential to their success and Student Awards and Financial Aid is on hand to help create the right financial plan. Financial assistance can be in the form of bursaries, employment (both on-campus and off), parental resources, scholarships, student lines of credit and the Ontario Student Assistance Program (OSAP).

Information Technology Resources

IT Services strives to provide quality services to students at Ontario Tech. To support these objectives, the following components are included:

Wireless network

Wireless internet connection is available in public areas and open-air locations around the Ontario Tech campus where students congregate (North Oshawa and Downtown locations).

Wired network

To ensure the success of the technology-enriched learning environment, a comprehensive data network has been installed on campus. This includes a network drops in lecture halls and designated areas as well as network drops for each residence suite.

Ontario Tech students benefit from networked classrooms and learning spaces. Each ergonomically-designed space has data network connection access and electrical connections to ensure battery regeneration. In addition, classrooms include electronic projection equipment and full multimedia support.

IT Service Desk

The IT Service Desk is equipped with certified technicians and experienced IT professionals offering technical support services on a drop-in, call-in or email basis.

GUWs

Ontario Tech undergraduate students are able to use general workstations available at the library and have access to Bring Your Own Device Technology-Enriched Learning Environment (BYOD TELE) model course-specific software.

Software Support

Software Support specialists are available to students on-site and online to assist in downloading/installing University software and support any other software related issues.

Printing services

Printing services are available to students in the following areas: labs, classrooms, study common areas, the Learning Commons and the Library. All Ontario Tech students receive print

credits every year, more Printpacks can be purchased through the Campus Bookstore if students require additional printing services.

Teaching & Learning Centre

The mission of the Teaching and Learning Centre (TLC) at Ontario Tech is to empower faculty to reach their potential as educators and to create a culture where effective teaching is valued. We champion the scholarship of teaching and implementation of pedagogy. We create valuable teaching and learning professional development experiences. We move Ontario Tech towards being a leader in teaching excellence, ultimately leading to greater student success.

The TLC provides faculty with a range of tools and facilities to assist them in providing a rich learning experience for students. Experts at the TLC provide support in various areas including curriculum development, multimedia design, learning technology and in the overall improvement of teaching practice.

In addition, the TLC funds teaching-related projects from the Teaching Innovation Fund (TIF) for proposals by faculty members aimed at developing new methods in teaching and learning. The TLC facilitates teaching awards at the University and supports faculty in their application for external awards and funding opportunities that focus on teaching and learning.

e) Physical resource requirements

- *Please attach a report, as an Appendix, from the Library regarding existing library holdings and support for student learning; please contact your Subject Librarian as you begin your proposal to request a 'Library statement for new program proposal'*
- *Address any space/infrastructure requirements including information technology, laboratory space, equipment, etc. If new space is required, please complete Table 4 (examples in purple); otherwise, please remove this Table from the document*
- *Ideally, please provide information on the change in the number of faculty, students, administrative staff, etc. as it relates to space, as well as information on changes in equipment and activities (additional space; the renovation of existing space; or will the current space allocation accommodate the new program)*
- ***Describe the plan and commitment to provide additional resources to support the program, if needed***

Existing FEAS lab space will be utilized to run the labs required for the courses. The table below summarizes the FEAS lab space that will be utilized for the program

Space	Current (SqM)
ENG1030	90
ENG1035	90

ENG1040	90
ENG1045	78
ENG1050	120
ENG2030	90
ENG2035	90
ENG2040	90
ENG2045	78
ENG2050	90
ENG3030	90
ENG3040	78
ENG3045	90
ENG3050	90
SIRC2010	160
SIRC2030	160
SIRC2070	150

Existing library will be utilized for the program. Appendix E contains the Library Report.

f) Business Plan

- *Provide a brief statement of the funding requirements, and insert the Program Summary tab from the New Degree Program UG Proposal Budget spreadsheet as an Appendix. Also, please submit a copy of the full Excel document to CIQE.*
- *Complete the highlighted sections of the New Program Funding and Tuition form and submit the form to CIQE as soon as possible*

See Appendix F for the Budget Spreadsheet

5 Closing Statements Regarding Program Quality (QAF 2.1.10)

- *Please describe the appropriateness of the collective faculty expertise to contribute substantively to the proposed program; what areas of faculty strength and expertise, innovation, and scholarly record will contribute to the quality of the program and student experience*
- *Please explain how the program structure and faculty research will ensure the intellectual quality of the student experience*

The Department of Mechanical and Manufacturing Engineering, where the Industrial Engineering program will reside, includes 21 faculty members with extensive industrial and academic experience in areas that will directly contribute to the quality of the Industrial Engineering program and its success. Some of the key research areas include human factors, automated systems, human system integration and ergonomics, operations research, process design, stochastic modeling and industrial data analytics.
Moreover, the Industrial Engineering program will benefit from our existing engineering programs, namely the Manufacturing Engineering program. The Manufacturing Engineering program is a niche program at Ontario Tech and it is the only accredited undergraduate program in Canada. Our faculty members are well recognized nationally and internationally. They are performing innovative research in collaboration with many industrial partners in Canada. The students benefit from these research activities through the introduction of industrial case studies in the different courses or by directly participating in the research projects as undergraduate research students.

APPENDICES

Please include at minimum the below. Additional Appendices may be added, as appropriate. Appendices should ultimately be listed, attached, and labelled (A, B, C, etc.) in the order in which they first are mentioned in the document.

A. Accreditation Tables
B. Calendar Copy with Program Maps
C. 1List of Program Courses, New Course Proposals, Required Course Changes
   2 Course Syllabi for Existing Courses
D. Detailed Listing of Faculty Committed to the Program
E. Library Report
F. Budget Spreadsheet Summary
G. Feedback from Stakeholders

Items to be separate documents sent to CIQE:

New Program Funding and Tuition (for internal use only)
Full Budget Spreadsheet (for internal use only)
Faculty CVs (to be provided to the External Reviewers)

Financial Update
Report to the Audit and Finance Committee

February 23, 2022

OntarioTech UNIVERSITY

Ontario Tech University - Operating Forecast Summary
For the year ending March 31, 2022 (in '000s)

The table below shows the variance of the year-end forecast vs the approved 2021/22 budget

	April 1, 2021 - March 31, 2022			
	Total Annual Budget	Y/E Forecast	Fav. (Unfav.) Budget vs. Forecast $ / %	
Revenue				
Grants	81,677	89,824	8,147	10%
Tuition	82,951	88,644	5,694	7%
Student Ancillary	12,305	12,319	15	0%
Other	14,969	13,516	(1,454)	-10%
Total Revenue	**191,902**	**204,303**	**$ 12,401**	**6%**
Expenditures				
Academic/ACRU	80,845	83,140	(2,296)	-3%
Academic Support	37,497	41,183	(3,686)	-10%
Administrative	29,979	30,592	(613)	-2%
Sub-total	**148,321**	**154,915**	**(6,594)**	**-4%**
Purchased Services	**12,749**	**12,396**	353	**3%**
Total Ancillary/Commercial	**8,546**	**8,023**	523	**6%**
Debenture Interest Expense	**9,312**	**9,312**	(0)	**0%**
Total Operating Expenses	**178,927**	**184,645**	**$ (5,718)**	**-3%**
Net Contribution from Operations	**$ 12,975**	**$ 19,658**	**$ 6,684**	**52%**
Capital Expenses	**4,897**	**8,155**	**(3,259)**	**-67%**
Principal Repayments - debenture/leases	**8,078**	**8,078**	**0**	**0%**
Total Net Surplus	**$ 0**	**$ 3,425**	**$ 3,425**	**N/A**
Other Disclosures - funded from prior years reserves or external financing				
Utilization of prior year reserves	**$ -**	**$ 200**	**$ (200)**	**0%**
New Building - loan	**$ 22,300**	**$ 21,418**	**$ (882)**	**-4%**

2021/22 Operating Forecast

Summary

Based on Nov 1, 2021 official fall enrolment count, and Dec 14, 2021 expense forecast submissions from budget holders, the net operating surplus for the year is projected to be approximately $3.4M against an original balanced budget.

Total revenue is favourable $12.4M (or 6% against original budget), and includes $5.7M tuition fees due to higher than expected enrolment, $8.1M unexpected grants in support of virtual learning, student support and facilities renewal. These increases are offset by $1.5M unfavourable variance in other revenues attributable to the ongoing impact of COVID-19 on commercial activities such as ACE, food services, athletics and parking.

Total operating and capital expenses increased $9.0M (or 5% against original budget), of which $8.1M (or 90%) is funded by the unexpected grants received and/or recognized in the current year, with remaining increase reflecting additional investment in student scholarships and recruitment costs.

Below are the variances of the year-end forecast to the approved budget:

Enrolment

FTE's	2020/21 actual	2021/22 approved budget	2021/22 Nov 1 update *	Nov 1 update vs approved budget
Undergraduate				
Domestic	**8,291**	**7,802**	**8,312**	**510**
International	**521**	**559**	**625**	**66**
Graduate				
Domestic	**443**	**415**	**434**	**19**
International	**193**	**239**	**296**	**57**
Total FTE's	**9,448**	**9,015**	**9,667**	**652**

** Nov 1 update reflects official fall enrolment count to the Ministry. With four enrolment count dates over the year, this is currently an estimate until final winter count in February 2022.

2021/22 Operating Forecast (continued)

Enrolment

Increases in enrolment are attributable to a higher than excepted number of returning students, offset by a decrease of 10% in first-year domestic undergraduate intake which will have a flow-through impact in the outer years' enrolment.

Core Operating Grant remains flat as under the new funding formula implemented by the Ministry in 2017/18, the funding for domestic students for the current year remains at the 2016/17 level. Current eligible undergraduate and graduate enrolment projection is within the + / - 3% of the University's corridor midpoint.

Revenues

Total revenues are favourable $12.4M to budget:

1) Grants are $8.1M favourable to budget and pertain to additional specific grants received and recognized in the current year, and for which there are corresponding offsetting expenses. Significant grants include $2.5M of e-campus Ontario grant to support the evolution of virtual teaching and learning, $2.3M COVID support grant deferred from the prior year to cover current year expenses, $1.7M additional funding for campus facilities renewal and lab renovations and $0.9M for student work placement.

2) Tuition is showing an upside of $5.7M against budget due to the higher than budgeted enrolment for both domestic and international students (see Enrolment table above).

3) Other revenues are unfavourable $1.5M due to the loss in our commercial revenues for ACE, food services, parking, and the athletic facilities, mostly attributable to the ongoing impact of COVID-19 and the lower than expected number of faculty, staff and students on campus.

Expenses

Total operating expenses are unfavourable $5.7M to budget:

1) Academic units are unfavourable $2.3M against budget and includes $1.6M expenses funded by the e-campus and other grants (see "Grants" under "Revenues" above) and additional support allocated to instruction based on enrolment growth.

2) Academic Support units are unfavourable $3.7M and includes $1.3M of expenses funded by the e-campus grant (see "Grants" under "Revenues" above), $1.0M in entrance scholarships as a higher than expected number of students met the eligibility criteria, $0.5M increase in recruitment costs, and other immaterial variances.

3) Commercial Expenses are showing a positive variance of $0.5M and is attributable to cost savings to offset decreased revenues in ACE, food services, parking and athletic facilities (see "Other revenues" under "Revenues" above).

2021/22 Operating Forecast (continued)

Capital

Capital Expenses are unfavourable $3.3M, and includes $2.6M capital investment in IT (to accommodate flexible hybrid learning and work environment) and Facilities infrastructure, all of which are fully funded by the provincial COVID support grant and additional facilities renewal grant, and $0.7M for Nursing labs in Shawenjigewining building, funded by the new Ontario TERF (Training Equipment and Renewal Fund) grant.

Conclusion

The current forecast is showing a net surplus of $3.4M based on current spending plans and the current COVID situation in the Region and the Province.

Subject to Board approval, actual surplus at the end of the year will be internally restricted to comply with contractual obligations and/or policy (e.g. unspent faculty start-up and professional development or unspent student ancillary fees which are restricted for use in future years), to invest in student aid and to reserve for the university's capital plan for infrastructure improvements.

COMMITTEE/BOARD REPORT

SESSION:		ACTION REQUESTED:	
Public	☒	Decision	☒
Non-Public	☐	Discussion/Direction	☐
		Information	☐

TO: Board of Governors

DATE: March 10, 2022

FROM: Audit and Finance Committee (A&F)

SUBJECT: 2022-23 Tuition Fees

BACKGROUND/CONTEXT & RATIONALE:

The tuition fee framework, released by the provincial government in December 2018, regulates all publicly funded programs and allows for tuition fee differentiation based on program and program year.

The framework initially had all domestic tuition rates decrease by 10% in 2019-20, then remain at this rate for 2020-21. As there has not been a release of a new framework for the 2022-23 academic year this, document assumes that rates will remain frozen and therefore, will remain the same as seen in the 2019-20 and 2020-21 academic years. The current fees are compliant with the existing tuition fee framework, and are being used for planning purposes. When a new tuition fee framework is released, the University will explore potential opportunities and implications for tuition fee adjustments at that time.

International or cost recovery programs are not included in the limits imposed by the provincial framework.

Recommended international tuition fees for programs were informed by comparative analysis of international fees within the sector for similar programs. The majority of Ontario Tech programs were below the system average. Recommended adjustments bring Ontario Tech tuition fee levels closer to the average of competing programs. International fee increases have been proposed for the first year of programs with a commitment to capping further tuition fee increases in years 2, 3 and 4 (for undergraduate programs) to no more than 5% per year.

Concomitant investments in international student scholarships and bursaries are being made to support undergraduate students. Support for research-mode international graduate students is provided through student funding packages (e.g. GITS and/or Dean's Graduate Scholarships, Teaching Assistantships, and supervisor-funded Graduate Research Assistantships). SGPS

has an annual fund to provide scholarships to full-time international graduate students in research master's and PhD programs.

RESOURCES REQUIRED:
N/A

IMPLICATIONS:
The rates proposed in this document have been made to remain compliant with the provincial government's tuition framework. Revenue projections for the 2022-23 Budget use the proposed tuition levels. If there are reductions to the rates we would need to explore further reductions to expenses to offset the change.

ALIGNMENT WITH MISSION, VISION, VALUES & STRATEGIC PLAN:
The fees recommended will allow Ontario Tech to continue to provide quality undergraduate and graduate programs.

ALTERNATIVES CONSIDERED:
The fees presented below bring Ontario Tech fee levels closer to the average of competing programs in the sector.

CONSULTATION:
These rates were present to deans and Academic Council. Both groups noted concern around the proposed increase to international tuition for the Masters in Computer Science. Originally proposed to have a 15% increase to year 1, after consultation it was adjusted to mirror the increase of 5% in other research based international Masters at this time. After a comparative review of fees charged by competing programs offered by universities in Ontario, we recommend increases as permitted by the latest framework in all programs as outlined in the accompanying appendix table.

COMPLIANCE WITH POLICY/LEGISLATION:
The current fees are in compliance with the existing tuition fee framework.

NEXT STEPS:
Update tuition within Ontario Tech's student information system and website.

MOTION FOR CONSIDERATION:

That pursuant to the recommendation of the Audit & Finance Committee, the Board of Governors hereby approves the 2022-2023 tuition fees, as presented.

SUPPORTING REFERENCE MATERIALS:

- Appendix 1: Recommendations for Ontario Tech 2022-23 tuition fees

Appendix 1: Recommendations for Ontario Tech 2022-2023 tuition fees
Undergraduate Domestic

	2021-2022	2022-2023	Rate of Increase 21/22 to 22/23
BA, BASc, BEd, BHSc, BSc., BSc & Mgt, UG Diploma			
First Year	$5,982.80	$5,982.80	0.0%
Second Year	$5,956.38	$5,956.38	0.0%
Third Year	$5,926.62	$5,926.62	0.0%
Fourth Year	$5,920.76	$5,920.76	0.0%
Fifth Year	$5,914.98	$5,914.98	0.0%
BCom			
First Year	$8,088.28	$8,088.28	0.0%
Second Year	$8,049.76	$8,049.76	0.0%
Third Year	$8,011.44	$8,011.44	0.0%
Fourth Year	$8,003.52	$8,003.52	0.0%
BIT			
First Year	$9,031.18	$9,031.18	0.0%
Second Year	$9,022.42	$9,022.42	0.0%
Third Year	$9,013.68	$9,013.68	0.0%
Fourth Year	$8,991.78	$8,991.78	0.0%
BEng, BEng & Mgmt, BTech			
First Year	$9,390.18	$9,390.18	0.0%
Second Year	$9,381.24	$9,381.24	0.0%
Third Year	$9,372.30	$9,372.30	0.0%
Fourth Year	$9,283.04	$9,283.04	0.0%
Fifth Year	$9,159.26	$9,159.26	0.0%
BSc, BSc & Mgt (Computer Science)			
First Year	$6,339.90	$6,339.90	0.0%
Second Year	$6,333.84	$6,333.84	0.0%
Third Year	$6,327.84	$6,327.84	0.0%
Fourth Year	$6,321.78	$6,321.78	0.0%
Fifth Year	$6,321.64	$6,321.64	0.0%
BScN, BHA			
First Year	$6,100.68	$6,100.68	0.0%
Second Year	$6,094.76	$6,094.76	0.0%
Third Year	$6,088.84	$6,088.84	0.0%
Fourth Year	$6,082.92	$6,082.92	0.0%

Undergraduate International

	2021-22	2022-23	Rate of Increase 21/22 to 22/23
BA, BASc, BEd, BHSc, BSc, BSc & Mgt			
First Year	$26,541.38	$29,195.50	10.0%
Second Year	$23,084.14	$27,868.44	5.0%
Third Year	$22,982.30	$24,238.34	5.0%
Fourth Year	$22,867.38	$24,131.40	5.0%
Fifth Year	$22,844.84	$24,010.74	5.0%
BCom			
First Year	$29,439.86	$32,383.84	10.0%
Second Year	$25,605.04	$30,911.84	5.0%
Third Year	$25,483.12	$26,885.28	5.0%
Fourth Year	$25,386.02	$26,757.26	5.0%
BIT			
First Year	$30,734.36	$35,344.50	15.0%
Second Year	$26,730.94	$32,271.06	5.0%
Third Year	$26,705.00	$28,067.48	5.0%
Fourth Year	$26,679.06	$28,040.24	5.0%
BEng, BEng & Mgmt, BTech			
First Year	$34,615.84	$39,808.20	15.0%
Second Year	$30,106.80	$36,346.62	5.0%
Third Year	$30,078.14	$31,612.14	5.0%
Fourth Year	$30,049.50	$31,582.04	5.0%
Fifth Year	$29,763.30	$31,551.96	5.0%
BSc, Computer Science			
First Year	$28,125.62	$32,344.46	15.0%
Second Year	$24,462.00	$29,531.90	5.0%
Third Year	$24,438.70	$25,685.10	5.0%
Fourth Year	$24,415.44	$25,660.62	5.0%
Fifth Year	$24,392.16	$25,636.20	5.0%
BScN, BHA			
First Year	$27,064.36	$29,770.78	10.0%
Second Year	$23,538.98	$28,417.56	5.0%
Third Year	$23,516.12	$24,715.92	5.0%
Fourth Year	$23,492.84	$24,691.92	5.0%

Graduate Domestic

Program Based

	2021-22	2022-23	Rate of Increase 21/22 to 22/23
MA (SSH), MHSc, MSc			
All Years	$7,579.30	$7,579.30	0.0%
MASc, MEng, MEngM			
All Years	$8,859.94	$8,859.94	0.0%
MSc in Nursing			
All Years	$8,761.50	$8,761.50	0.0%
MBAI			
All Years		$27,090.00	
PhD			
All Years	$7,579.30	$7,579.30	0.0%
Doctor of Education			
All Years		$10,530.00	
Graduate Diploma			
Diploma in Accounting	$8,103.06	$8,508.20	5.0%
Diploma in Nuclear Technology	$5,906.62	$5,906.62	0.0%
Diploma in Nuclear Design Engineering	$5,906.62	$5,906.62	0.0%
Diploma in Engineering Management	$5,906.62	$5,906.62	0.0%
Diploma in Police Leadership		$7,579.30	

Credit Based (per 3-credit course)

	2021-22	2022-23	Rate of Increase 21/22 to 22/23
MEd, MA in Education			
All Years	$1,576.47	$1,576.47	0.0%
Graduate Diploma			
Education & Digital Technology	$1,576.47	$1,576.47	0.0%
Work Disability Prevention	$1,576.47	$1,576.47	0.0%
MITS			
All Years	$1,257.52	$1,257.52	0.0%

Graduate International

Program Based

	2021-22	2022-23	Rate of Increase 21/22 to 22/23
MA (SSH), MHSc, MSc			
All Years	$19,166.00	$20,124.30	5.0%
MASc			
All Years	$21,250.60	$22,313.12	5.0%
MEng, MEngM			
All Years	$27,581.58	$28,960.64	5.0%
MSc in Nursing			
All Years	$22,130.32	$23,236.82	5.0%
MBAI			
All Years		$45,000.00	
PhD			
All Years	$19,166.00	$19,166.00	0.0%
Doctor of Education			
All Years		$17,374.50	
Graduate Diploma			
Diploma in Accounting	$12,154.59	$13,370.04	10.0%
Diploma in Nuclear Technology	$18,387.72	$19,307.10	5.0%
Diploma in Nuclear Design Engineering	$18,387.72	$19,307.10	5.0%
Diploma in Engineering Management	$18,387.72	$19,307.10	5.0%
Diploma in Police Leadership		$20,124.30	

Credit Based (per 3-credit course)

	2021-2022	2022-2023	Rate of Increase 21/22 to 22/23
MEd, MA in Education			
All Years	$2,263.04	$2,602.50	15.0%
Graduate Diploma			
Education & Digital Technology	$2,263.04	$2,602.50	15.0%
Work Disability Prevention	$2,263.04	$2,602.50	15.0%
MITS			
All Years	$3,451.46	$3,796.61	10.00%

English for Academic Purposes (EAP) Program

			Rate of Increase
	2021-22	2022-23	21/22 to 22/23
All Levels	$3,041.29	$3,041.29	0.0%

BOARD REPORT

SESSION:		ACTION REQUESTED:	
Public	☒	Decision	☒
Non-Public	☐	Discussion/Direction	☐
		Information	☐

TO: Board of Governors

DATE: March 10, 2022

FROM: Audit & Finance Committee (A&F)

SUBJECT: 2022-23 Ancillary Fees

COMMITTEE/BOARD MANDATE:

The committee is responsible for overseeing the financial affairs of the university including reviewing and recommending approval of the tuition fees and ancillary fees.

A&F is recommending that the Board of Governors approves the proposed 2022-23 ancillary fees, as presented.

BACKGROUND/CONTEXT & RATIONALE:

Provincial policy requires that a negotiated Compulsory Ancillary Fees protocol exists between the board of governors of each university and their student association. For Ontario Tech our agreed upon protocol, signed in 2010, creates a committee that consists of three student and three administrative representatives. Under the terms of the current Ontario Tech protocol fees under the Bank of Canada, Consumer Price Index average, in September each year, do not require committee approval. Some of the categories that increased were those mandated by outside vendors (i.e. health plans) or offered in conjunction with Durham College (i.e. Campus Recreation and Wellness).

For clarity, CPI is an indicator of changes in consumer prices experienced by Canadians. It is obtained by comparing, over time, the cost of a fixed basket of goods and services purchased by consumers. Normally, the prices of certain CPI components can be particularly volatile. During COVID we have seen much larger fluctuations than usual; hence, the reason we use CPI-median as our tracker. This is a measure of core inflation corresponding to the price change located at the 50th percentile of the distribution. This measure helps filter out extreme price movements specific to certain components.

The September 2021 median CPI is 2.9%. The recommended **average increase for 2022-2023 is 1.8%.** This figure does not include contractual increases to items such as health insurance plan under OTSU purview nor the individual society and TELE rates. Looking through

the lines two items of note include the fact that some TELE fees have been decreased 15 – 30% based on savings we were able to achieve in bulk software packages.

You will also note some larger increases (12 – 15%) in OTSU items related to student clubs, programming and events; but, this is on small dollar figures and this was done in partnership with administration to ensure the bottom line average was under CPI. It is important to note that in 2021-2022 OTSU froze these fees such that the full university wide increase could be placed in Student Success Support. The increase mainly is to support the expansion of the esports programming and the supports for clubs/ societies.

OTSU Building Fee - *4.75% increase of $4.80 / year. This fee increase is required to support the ongoing operational costs for the OTSU spaces in* Shawenjigewining Hall*. The additional expenses support the general organization wide IT operations and the new costs associated with the operation of the OTSU ESports Arena. These new expenses include dedicated internet service, firewall and data security, software and server management. These expenses were not initially considered as part of the building agreement and planned operating expenses.*

OTSU Community and Social Programming Fee. - A 15% increase of $1.63. In line with the launch of the new OTSU ESports Arena in Shawenjigewining Hall, the OTSU also plans to provide all students with opportunities to participate in community (Intramural) programming, which will include leagues, special events and casual drop in gamming. To achieve this priority the OTSU will see increased expenses to support the program and will also create a student employment opportunity to lead this new service.

OTSU Campus Clubs & Societies - 12 % increase of $0.59 / year. With the launch of the new dedicated student clubs and societies spaces in Shawenjigewining Hall, the OTSU plans to add new student employment opportunities to directly support the average of 100 student clubs each year. The revised proposals include the addition of 4 new student positions. 3 of them are 8 months (Sept-April) and 1 is 4 months (May-Aug). We currently have 7 student positions, 5 of which are funded through the University Works program.

OTSU Campus Life & Events Fee *- A 15% increase of $1.71. In line with the launch of the new OTSU ESports Arena in Shawenjigewining Hall, the OTSU also plans to provide all students with opportunities to participate in competitive province wide ESports programming through the Ontario Post-Secondary ESports League (* https://opsesports.ca/ *). Similar to our campus varsity athletics program, Ontario Tech students will compete with the top teams from campus around the province. This fee increase will support the varsity / competitive league expenses and a dedicated student position to support this new program.*
As we know that every dollar counts to students we have been watching our combined tuition and ancillary rates carefully and make any adjustments with this in mind. Our rates are higher than other Ontario institutions due to our smaller size and the fact that we have two capital projects (~$350) approved through student referendum. Additionally, we have costs due to our dedication to providing a Technology Enhanced Learning Environment and Sustainable Campus. For many students this actually saves them money rather than having them go out and buy the materials independently. For example, the Durham Region Bus Pass saves students about 65% on a monthly adult rate.

RESOURCES REQUIRED:

N/A

IMPLICATIONS:
Altering the fees will alter our ability to provide specific services.

ALIGNMENT WITH MISSION, VISION, VALUES & STRATEGIC PLAN:
The fees recommended will allow Ontario Tech to continue to provide quality undergraduate and graduate services and experiences to its students.

ALTERNATIVES CONSIDERED:
Each fee change was reviewed by the Ancillary fee Committee.

CONSULTATION:
A request for fees was sent out to all unit leads and Ontario Tech Student Union in December. The committee met to evaluate and decide on changes. Instead of applying the CPI to all fees the Student Union and management discussed, and agreed to, reallocating the increase to a new student success fee that would enhance academic advising services.

COMPLIANCE WITH POLICY/LEGISLATION:
The increases are compliant with provincial policy and Ontario Tech's ancillary fee protocol.

NEXT STEPS:
Update ancillary fees within Ontario Tech's student information system and website.

MOTION FOR CONSIDERATION:
That pursuant to the recommendation of the Audit and Finance Committee, the Board of Governors hereby approves the 2022-23 ancillary fees as presented.

Compulsory Ancillary Fees
(Note: New Fees for 2022/23 are highlighted in green)

Flat Fees. FT and PT.	2019-20	2020-21	2021-22	2022-23	% Inc
Career Readiness	68.64	70.14	70.14	71.54	2.0%
Health Services (general)	26.22	26.80	27.31	27.85	2.0%
Mental Health Services	65.42	66.86	66.86	68.20	2.0%
Health and Wellness	14.96	15.28	15.28	15.59	2.0%
Sport and Recreation	79.18	91.68	91.68	93.51	2.0%
Campus Open Access	33.08	33.80	33.80	34.48	2.0%
Student Safety and Accessibility	9.64	86.18	86.18	87.90	2.0%
Student Success Support			31.70	32.33	2.0%
Physical and Virtual Infrastructure Enhancements	116.74	154.06	154.06	157.14	2.0%
Student ID	18.74	19.14	19.14	19.52	2.0%
Charged to FT each term					
U-Pass (Winter only)	278.00	283.5	288.90	294.50	1.9%
Flat Fees Paid half Fall and half Winter. FT and PT.					

Campus Clubs	4.80	4.90	4.90	5.49	12.0%
Campus Life and Events	11.18	11.42	11.42	13.13	15.0%
Community and Social Programming	10.64	10.86	10.86	12.49	15.0%
Convocation	6.62	6.77	6.77	6.90	2.0%
Georgian Engagement Services	200.33	204.74	204.74	208.83	2.0%
Instructional Resource	115.22	144.52	144.52	144.52	0.0%
Student Engagement	67.34	68.82	68.82	70.20	2.0%
Student Learning	115.92	118.46	118.46	120.83	2.0%
Student Representation and Leadership	8.90	9.10	9.10	9.28	2.0%
Student Societies	3.28	3.34	3.34	3.41	2.0%
Student Society Fee FBIT	13.28	13.56	13.56	13.83	2.0%
Student Society Fee FEAS/FESNS	18.28	18.68	18.68	19.06	2.0%
Student Society Fee FHSc	13.28	10.00	10.00	10.20	2.0%
Student Society Fee FSCI	13.28	15.00	15.00	15.30	2.0%
Student Society Fee SSH			0.00	7.50	
Technology-enriched Learning FBIT Non-Gaming	151.07	154.38	154.38	154.38	0.0%
Technology-enriched Learning FBIT -Gaming	478.00	488.52	488.52	341.96	-30.0%
Technology-enriched Learning FEAS	231.00	236.08	236.08	200.69	-15.0%
Technology-enriched Learning FESNS	221.00	225.86	225.86	200.69	-11.1%
Technology-enriched Learning FEDU	194.88	224.10	224.10	224.10	0.0%
Technology-enriched Learning FEDU		112.00	112.00	112.00	0.0%
Technology-enriched Learning FHSc	157.86	161.32	161.32	161.32	0.0%
Technology-enriched Learning FSCI	180.13	184.08	184.08	156.47	-15.0%
Technology-enriched Learning FSSH	130.69	133.56	133.56	133.56	0.0%
Technology-enriched Learning Undeclared	154.00	157.38	157.38	157.38	0.0%
Wellness and Support Services	11.20	11.44	11.44	11.67	2.0%
World University Services of Canada	2.70	2.76	2.76	2.81	2.0%
Flat Fees Paid half Fall and half Winter. FT only					
Benefit Plan Coordination	23.86	24.38	24.38	24.38	0.0%
USU Building	98.89	101.06	101.06	105.86	4.7%
Campus Recreation and Wellness Centre	174.12	176.04	176.04	177.94	1.1%
Varsity Sports	77.20	78.9	78.90	80.48	2.0%
Flat Fees Paid once per yr. (Fall or as admitted). FT only.					
Health & Dental - Fall	250.32	284.64	284.64	284.64	0.0%
Health & Dental - Winter	201.70	230.10	230.10	230.10	0.0%
Health & Dental -Summer	153.08	175.56	175.56	175.56	0.0%
Legal Protection Program - Fall		28.00	31.64	31.64	0.0%
Legal Protection Program - Winter/Summer			21.09	21.09	0.0%
International Health Insurance - Fall	672.00	720.00	756.00	756.00	0.0%

International Health Insurance - Winter	448.00	480.00	504.00	504.00	0.0%
International Health Ins.UHIP - Summer	224.00	240.00	252.00	252.00	0.0%
Flat Fees Paid once per yr. (Fall or as admitted). FT and PT					
Nursing Mask fee	10.00	10.00	45.00	45.00	0.0%
Nursing Levey for CNSA	10.00	10.00	10.00	10.00	0.0%
Graduate Diploma in Accounting	250.00	250.00	250.00	250.00	0.0%
Flat Fees Paid at time of Course Registration					
Internship/Coop	610.80	624.24	624.24	636.72	2.0%
Business - INFR 2421U	10.00	10.00	10.00	10.00	0.0%
Business - BUSI 4701U			5.00	5.00	0.0%
Medical Laboratory Fee - MLSC 1010U	60.00	60.00	61.14	61.14	0.0%
Medical Laboratory Mask Fee - MLSC 4400U	20.00	20.00	45.00	45.00	0.0%
Nursing Lab Supply Fee - NURS 1003U	50.00	50.00	50.94	50.94	0.0%
Nursing Lab Supply Fee - NURS 2810U	30.00	30.00	30.56	30.56	0.0%
Nursing Lab Supply Fee - NURS 2820U	50.00	50.00	50.94	50.94	0.0%
Kinesiology Lab Supply Fee - HLSC 3476U	20.00	20.00	20.38	20.38	0.0%
Kinesiology Lab Supply Fee - HLSC 3475U	10.00	10.00	10.18	10.18	0.0%
Education Placement Fee (each term)	75.00	91.50	78.12	78.12	0.0%

- *Nursing licensing exam fee under review with student referendum. If that passes we will add that fee for a later date*

BOARD REPORT

SESSION:		**ACTION REQUESTED:**	
Public	☒	**Decision**	☒
		Discussion/Direction	☐
TO:	**Board of Governors**		
DATE:	**March 10, 2022**		
FROM:	**Governance, Nominations and Human Resources Committee (GNHR)**		
SUBJECT:	**Draft Board of Governors Statement on Equity, Diversity, and Inclusion (EDI Statement)**		

COMMITTEE MANDATE:

- In accordance with its Terms of Reference, one of GNHR's responsibilities includes periodically reviewing the policies of the Board and its committees and making recommendations to the governing body or administrative department for development and revision when appropriate.
- GNHR is presenting the draft EDI Statement for approval by the Board of Governors.

BACKGROUND:

- Concurrent with the COVID-19 crisis, we have also been witnessing a crisis of racism, hatred and violence across North America. Equity, diversity, and inclusivity are fundamental values that define our institution.
- In order to demonstrate the Board's commitment to systemic change to organizational structures that continue to marginalize communities, one of the Board's priorities is to develop a governance EDI strategy for the Board. This is in addition to the Board's oversight of EDI initiatives at the university.
- The Board commenced its work on developing a Board Governance EDI Strategy last year. GNHR is the committee responsible for overseeing this initiative and advising the Board accordingly.
- As part of the Board's initial work on this, the Board of Governors had a professional development session dedicated to EDI before its meeting in February 2021 and GNHR had discussions focused on EDI during each of its meetings last year.
- As it started this process, the Board acknowledged the important work that has already begun at the university, including the President's Equity Task Force Report.

Summary of key takeaways from GNHR EDI discussions:

- The institution should be a leader in this area for the broader community;
- Board recruitment process should be reviewed and updated in order to bolster EDI considerations;
- The Board should work to ensure its composition reflects the community it serves;
- Requires Board to commit to ongoing professional development with respect to EDI;
- Important for the Board to be thoughtful in its work and avoid making merely symbolic statements;
- Consider updating the Board's annual practices assessment to incorporate EDI-focused questions; and
- EDI should be incorporated into the Board's decision-making processes.

Working Group:

- In order to assist GNHR with this work, a working group consisting of several members of GNHR and other external governors met in July to prepare a draft Board EDI statement for the committee's review.
- The working group members are:
    - Maria Saros, Chair of GNHR
    - Kevin Chan
    - Stephanie Chow
    - Francis Garwe
    - Kori Kingsbury
    - Roger Thompson
- The working group was guided by the key takeaways from the discussions of GNHR and the Board.
- The draft Board EDI statement was reviewed by GNHR at their October meeting and is being presented for the Board's review and feedback.

FEEDBACK FROM THE BOARD:

- The draft statement was presented to the Board for review and feedback at their meeting on December 9, 2021.
- A summary of the Board's comments follows:
    - great work on the EDI statement;
    - since the EDI statement was developed before the community consultations for the presidential renewal, it might be helpful to have a look at the community feedback to determine whether there is anything further to incorporate into the statement;
    - it is great that the statement includes an acknowledgment of friendship with Indigenous people - is there room for a statement that captures the Board's commitment to supporting and advancing relationships with Indigenous communities?
    - the statement accurately reflects the Board's role – support, foster and monitor advancement of EDI programs at the university; the Board also commits to supporting the work of reconciliation;
    - the Board is embarking on this journey together with the university;

  - How will the Board actualize the commitment? Suggestion to include a section in Board reports on how the proposal advances EDI;
  - Is the statement trying to be too specific by listing the groups and will that inadvertently leave someone out?
  - suggestion to add “and other equity deserving groups/communities” to the statement;
  - the statement is not carved in stone and can be updated as needed – it is a living and breathing document;
  - it might be helpful to make it explicit in the statement that it is an evolving document and will be reviewed; and
  - this is crucial work – the section in the statement about university culture is extremely important.
- The statement has been updated to incorporate the key comments from the Board and is being presented today for approval.

MOTION for CONSIDERATION:
That pursuant to the recommendation of the Governance, Nominations and Human Resources Committee, the Board of Governors hereby approves the Board of Governors EDI Statement, as presented.

SUPPORTING REFERENCE MATERIALS:

- blacklined & clean updated Board EDI Statement

Commitment to EDI:
The Ontario Tech University Board of Governors acknowledges and is grateful for the friendship of the people of the Mississaugas of Scugog Island First Nation on whose traditional lands the university's campus is located. The Board is committed to equity, diversity, and inclusion (EDI) and to removing barriers for the groups most likely to experience them, including: Indigenous persons; persons with a disability; Lesbian, Gay, Bisexual, Trans, Queer, 2-spirit, Non-Binary (LGBTQ2+) persons; racialized persons; ~~and women~~women; and other equity deserving groups. This includes a commitment to advancing reconciliation and fostering relationships with Indigenous communities.

The Board's Role:
The Board will support and foster the advancement of EDI programs and initiatives at the University and is committed to incorporating EDI in its decision-making and recruitment practices.

University Culture:
The Board commits to fostering an inclusive culture at Ontario Tech University. The Board believes EDI is at the heart of the university's mission of *technology with a conscience*, and engages regularly with university leadership on the progress against Ontario Tech's EDI strategy.

Board Decision-Making:
The Board commits to incorporating EDI in the performance of its duties and its decision-making processes to ensure the Board is reviewing matters through an EDI lens.

Board Recruitment:
The Board will pursue recruitment strategies that enable it to broaden the EDI of the Board when recruiting governors.

Board Composition:
The Board is committed to incorporating EDI in its governor appointments and to ensuring that Board members reflect the communities the university serves.

Board Education:
The Board approaches its role in advancing EDI as a journey that requires regular engagement with the university community and an open mindedness to continually seek out new knowledge and perspectives. The Board is committed to providing continuous learning for governors to ensure its policies reflect best practices for diverse recruitment. The Board will incorporate EDI learning in its professional development programming for governors.

As the Board's EDI journey evolves, so too will this statement. The Board will regularly review and update these commitments to ensure they reflect the Board's increased

knowledge and improved understanding of EDI best practices. The Board also commits to assessing the progress being made in advancing these commitments.

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As the Board's EDI journey evolves, so too will this statement. The Board will regularly review and update these commitments to ensure they reflect the Board's increased knowledge and improved understanding of EDI best practices. The Board also commits to assessing the progress being made in advancing these commitments.

BOARD OF GOVERNORS' 121st REGULAR MEETING

Minutes of the Public Session of the Meeting of Thursday, December 9, 2021
1:00 p.m. to 2:45 p.m., Video Conference

GOVERNORS IN ATTENDANCE:
Dietmar Reiner, Board Chair
Laura Elliott, Vice-Chair and Chair of Audit & Finance Committee
Maria Saros, Vice-Chair and Chair of Governance, Nominations & Human Resources Committee
Lynne Zucker, Chair of Strategy & Planning Committee
Steven Murphy, President
Mitch Frazer, Chancellor
Eric Agius
Ahmad Barari
Carla Carmichael
Kevin Chan
Stephanie Chow, Vice-Chair of Audit & Finance Committee
Christopher Collins
Francis Garwe
Kathy Hao
Kori Kingsbury
Matthew Mackenzie
Dale MacMillan
Joshua Sankarlal
Kim Slade
Trevin Stratton
Roger Thompson
Jim Wilson

REGRETS:
Doug Ellis
Thorsten Koseck

BOARD SECRETARY:
Becky Dinwoodie, *Associate University Secretary & Judicial Officer*

STAFF:
Jamie Bruno, *Chief Work Transformation and Organization Culture Officer*
Stephanie Callahan, *Assistant to the Provost & VP Academic*

Sarah Cantrell, *Associate Vice-President, Planning & Strategic Analysis*
Cheryl Foy, *University Secretary & General Counsel*
Barb Hamilton, *Assistant to the University Secretary & General Counsel*
Krista Hester, *Assistant to the Provost & VP Academic*
Les Jacobs, *VP, Research and Innovation*
Lori Livingston, *Provost & VP Academic*
Brad MacIsaac, *Vice-President, Administration*
Joanne Nickle, *Assistant to the VP External Relations & Advancement*
Susan McGovern, *VP External Relations & Advancement*
Pamela Onsiong, *Director, Planning & Reporting*, *Finance*

GUESTS:
Andrea Armijo Fortin
Chelsea Bauer
Bin Chang
Ana Duff
Mike Eklund
Salma Karray
Hossam Kishawy
Nelson Lafreniere
Qusay Mahmoud
Kimberley McCartney
Christine McLaughlin
Kimberly Nugent
John O'Reilly
Natalie Oman
Hannah Scott
Phillip Shon
Andrea Slane
Peter Stoett
Toba Bryant

1. Call to Order

The Chair called the public session to order at 1:00 p.m.

2. Agenda

Upon a motion duly made by L. Elliott and seconded by R. Thompson, the Agenda was approved as presented.

3. Conflict of Interest Declaration

None.

4. Chair's Remarks

The Chair kept his remarks brief. He welcomed back the returning governors and extended a special welcome to E. Agius, A. Barari, C. Carmichael, M. Mackenzie, and C. Collins, and J. Sankarlal to their first full Board meeting. The Chair thanked the newest governors and the entire Board for volunteering their time to the university. He noted that many governors have been busy with committee meetings, the presidential renewal process, and other initatives at the university. He is confident that the Board will make great progress this year.

5. President's Report

The President commented that it is great to see everyone and he hopes to see eveyrone in person soon. He noted that the fall semester is almost over. Time seems different during the pandemic world. He delivered a strong message of thanks to faculty and staff for their hard work. The university continues to deliver top notch programs to our students. Innovations continue to be made in the classroom (virtual and in person). The President shared that there is great reason for optimism and hope at the university.

The President briefly discussed COVID. The university is working at about 50% capacity in the fall. He has received positive feedback from the community regarding the gradual return to campus. It is important to acknowledge that the pandemic has been a mental health crisis as well as a public health crisis. The President reported that the vast majority of the university community is double vaccinated and will continue along that path with additional doses. The plan is to increase on campus capacity from 50% to 60%. They are keeping a close eye on the Omicron variant. He also reminded governors that what we are talking about today will not be what we are discussing a few weeks from now. He thanked the senior leadership team for implementing the vaccine policy.

The President reported that the Brilliant Energy Institute has a new Executive Director, Jackie Hoornweg. He noted that multiple faculty have been working on this initiative. The Institute will also be helped by the recent donation from the Scion family. He also discussed Ontario Tech Talent, which continues to make progress towards being in a cash flow positive position in several years. The President also discussed the Aging with Dignity Centre. The pandemic has exposed vulnerabilities in long term care centres. The emphasis will be on best practices in care for the aged. This initiative aligns well with Tech with a Conscience, as we explore the use of technology in ensuring people can age with dignity.

F. Garwe expressed his gratitude for the development of the Institute for Disability and Rehabilitation Research and the Aging with Dignity Centre. These are important for the Durham community. That the university is playing a part in finding solutions for the future is highly commendable. F. Garwe gave kudos to the leaders and Deans for their work on

these centres. The President acknowledged the work of the Faculty of Health Sciences and all faculty involved in the development of the Aging with Dignity Centre.

6. Academic Council

L. Elliott delivered the Academic Council report. She reported that the work of Academic Council and its committees is well underway and a lot of work has been done already. Council continued its strategic discussions focused on blended learning by holding a session on November 12, where Academic Council received an overview of the key takeaways from last year's blended learning discussions and Dr. Stephan Marsh presented about the innovative pedagogical approaches he has implemented, including demonstrating the light board he constructed. There are 3 additional strategic discussions scheduled throughout the year, focusing on the priorities of: Good Governance, Blended Learning, and EDI.

During the last meeting, a presentation was given on the 2022-2023 Budget Approach and Council had a robust discussion. She heard a number of asks for more faculty, staff, TA support, and equipment. Management noted they expected the asks to far outweigh the funds available and they remain committed to finding efficiencies and identifying net new resources available to fund priority areas.

L. Elliott reported that Academic Council appointed its second Vice-Chair, Elita Partosoedarso, under the new Vice-Chair selection procedures, as well as Faculty Council Vice-Chairs under the recently approved new procedure. Council also confirmed the eligibility for graduation of those students who fulfilled all degree requirements at the end of the Summer and Fall Terms of 2021 and recommended the conferral of degrees by the Chancellor

L. Elliott advised that Academic Council approved the following academic curricular items:

- Faculty of Science Major Program Modification – Bachelor of Science in Biological Science – Marine Biology Specialization
- Faculty of Business and Information Technology - Major Program Modification: Bachelor of Commerce
- Toronto District School Board English Language Proficiency Partnership
- Research Committee Terms of Reference (formerly Research Board)
- Major Program Modification - Bachelor of Engineering Co-Op

Council also received the following reports from the Undergraduate Studies and Graduate Studies Committees, which are available for review on the Council's website:

- Cyclical Program Reviews:
    - Faculty of Science – Bachelor of Science in Forensic Science;
    - Faculty of Social Science and Humanities – Bachelor of Arts in Forensic Psychology;

- Faculty of Energy Systems and Nuclear Science – Master of Engineering in Nuclear Engineering, Graduate Diploma in Nuclear Design Engineering, and Graduate Diplomas in Nuclear Technology;
- Faculty of Education – Bachelor of Education 18-month Follow-up Report;
- Bachelor of Science in Applied and Industrial Mathematics

We are off to a good start and she looks forward to continuing to inform the Board about the great work being done by Council and its committees until a new Board liaison is appointed.

(J. Sankarlal joined at 1:24 p.m.)

6.1 New Program Proposals:

(a) Faculty of Business and Information Technology – Master of Financial Data Analytics

L. Elliott presented the proposal for consideration.

Upon a motion duly made by R. Thompson and seconded by A. Barari, pursuant to the recommendation of Academic Council, the Board of Governors unanimously approved the establishment of a Master of Financial Data Analytics program, as presented.

(b) Faculty of Social Science and Humanities – Master of Arts in Social Practice and Innovation

L. Elliott presented the proposal for approval. There was a discussion regarding the program's enrolment projection. A. Slane advised that it is a unique program and the aim is to be reachable and realistic to begin with and then to grow the program later on. There was also a discussion about the reconstitution of the Teaching and Learning Innovation Fund. A governor commended the Faculty for including Indigenous content in the proposal.

The Chair remarked that the proposed program is extremely relevant in today's world and gave credit for the innovative thinking in developing the program. A. Slane advised that when it gets off the ground, they would appreciate the help in getting the word out about the program. P. Stoett added that students will do a research project based in the community and they could use help promoting it. P. Stoett thanked A. Slane for all of her work on the program and for the extensive consultation that was involved. The Chair encouraged them to reach out to the Board to help promote the program when the timing is appropriate.

Upon a motion duly made by L. Elliott and seconded by M. Mackenzie, pursuant to the recommendation of Academic Council, the Board of Governors unanimously approved the establishment of a Master of Arts in Social Practice and Innovation program, as presented.

(c) Faculty of Engineering and Applied Science – Master of Applied Science and Master of Engineering in Software Engineering

L. Elliott presented the proposal for approval.

Upon a motion duly made by M. Saros and seconded by A. Barari, pursuant to the recommendation of Academic Council, the Board of Governors unanimously approved the Master of Applied Science and Master of Engineering in Software Engineering, as presented.

L. Elliott thanked all faculty and staff who have worked hard in putting these programs together.

Committee Reports

7. Audit & Finance Committee (A&F) Report

L. Elliott reported that the committee had a very full agenda at their last meeting. The committee engaged in a strategic discussion on financial sustainability, focusing on reserves. She shared the following key points:

- there are often unexpected events/circumstances that occur that result in a surplus and there are other times when there are required set asides; and
- as buildings age, it is important to set aside funds to prepare for repairs - potential to set aside $2.5m next year.

The committee also discussed the use of space and growth of the university. The committee reviewed its terms of reference, as well as recommended amendments to the Statement of Investment Policies.

Finance

7.1 Second Quarter Financial Reports

L. Elliott provided an overview of the second quarter financial reports. It was noted that it is anticipated that international growth will double over the next few years. With the domestic tuition cut and freeze, the only way to increase revenue is to increase international student enrolment. The university was near the lowest number of international students and has increased investment in recruitment and is taking a diversified approach.

The Board had the following questions and comments on the financials:

- Why has there been a decrease in enrolment for FESNS and are actions being taken to mitigate that decrease?

  - L. Livingston advised that the univeristy has been attempting to add new programs in FESNS for a period of time now as interest has been waning. They are mitigating the risk through interdisciplinary work and working with other Faculties to help increase enrolment.
  - S. Cantrell added that they are looking at strategic enrolment management opportunities.
- Will online students be viewed differently in the future or is it too early? Would there be reduced costs associated with remote learning enrolments?
  - B. MacIsaac advised that tuition is the same whether a student is learning online or in person; while online learning does not have the same physical space requirements, there are additional IT and infrastructure requirements. This will continue to be looked at going forward.

7.2 Budget Assumptions

L. Elliott provided an update on the committee's budget assumption discussion and referred the Board to the budget discussion paper included in the meeting material. She emphasized that strategy is driving the budget and not the other way around. Management is anticipating asks in the amount of $75m for a surplus of only $3.5m. She highlighted the strategic priorities that would be the focus for the next year. L. Elliott also discussed the budget consultation process.

(M. Frazer joined at 1:55 p.m.)

The Board had the following questions and comments:

- good quality report;
- risk of decoupling KPIs from the budget – which KPIs are most at risk and what is the mitigation?
  - S. Cantrell advised they are working with the Ministry to look at identifying shorter and longer term impacts on metrics that are beyond our control; technical discussion with the Ministry to increase bands of tolerance to help mitigate any sharp turns as a result of the pandemic.

The Chair added that during the presidential renewal consultations, there was some feedback from international students that might be helpful to recruitment. He also noted that there is a wealth of opportunity in partnerships and getting revenue through research collaborations with Ontario Tech Talent, Brilliant Energy Institute, etc.

L. Elliott thanked staff for the comprehensive reports and thanked governors for their excellent questions and comments.

8. Governance Nominations & Human Resources Committee (GNHR) Report

M. Saros thanked the committee, the secretariat, and senior leadership team for a great start of the academic year. She reported on the committee's strategic discussion during their last meeting, which focused on the Future of Work.

She reminded governors that the virtual meeting survey has been posted in OnBoard and encouraged them to complete it as the results will help inform the approach to committee and Board meetings going forward.

8.1 Strategic Discussion: Draft Board EDI Statement

M. Saros presented the draft statement for discussion. She noted that the statement is meant to express the Board's commitment and set the tone at the university. She thanked the working group for their work over the summer, which was complemented by the work of C. Foy and B. Dinwoodie. M. Saros invited the governors to provide their feedback on the draft statement, which included:

- great work on the EDI statement; the statement was already developed before the community consultations for presidential renewal; suggest having a look at the community feedback to determine whether there is anything further to incorporate into the statement; is there room for a statement that captures the Board's commitment to supporting and advancing relationships with Indigenous communities; it is the Board's role to support, foster and monitor the advancement of EDI programs and support the work of reconciliation.
- How does the Board actualize the commitment? Suggestion to include a section in Board reports on how the proposal advances EDI.
    - M. Saros confirmed that the Board is going about things thoughtfully and deliberately – this is a helpful suggestion to incorporate going forward.
- Are we trying to be too specific by listing the groups that we would inadvertently exclude someone?
    - M. Saros advised that the committee was intentional about acknowledging equity deserving groups – important to include language about continuous knowledge building and education on the subject – the impetus to focus on equity deserving groups is consistent with where the dialogue is focused.
- Is the plan to underpin the statement with hard actions/targets to help ensure we are making progress?
    - M. Saros noted that the Board must be cautious about implementing hard targets and the unintended consequences.
- Suggestion to add "and other equity deserving groups/communites" to ensure the Board does not inadvertently exclude anyone.

(T. Stratton joined at 2:16 p.m.)

  - M. Saros clarified that the statement is not carved in stone and can be updated as needed – it is a living and breathing document.
- Might be helpful to make it explicit in the statement that it is an evolving document and will be reviewed.
- Should consider including the EDI strategy in new program proposals as the work evolves.
- This is crucial work and the section in the statement about university culture is extremely important – ways to promote an inclusive culture is important – student population is diverse – discussed EDI requirements for applying for grants and for hiring faculty members – consider diversity in administration.

8.2 Update of Board 3-Year Governance Plan

M. Saros provided an overview of the proposed governance priorities that will assist with updating the Board's governance plan. She highlighted the priority themes:

- Continued enhancement of bicameral governance
- Strengthening AC
- Adapting governance in time of change
- Reviewing skills matrix
- Continue to incorporate technology to improve engagement

M. Saros invited the Board's feedback on the proposed priorities:

- The priorities align well with the university's strategic priorities – the university does a great job on checking and adjusting the strategic priorities and it might be helpful to apply the same methodology to the governance plan to ensure that the entirety of the framework is effective in supporting the work of the Board.
- Learning opportunities have been excellent – helpful that they are 30 minutes, which helps accessibility.

9.Strategy & Planning Committee (S&P) Report

L. Zucker delivered the S&P report. She commented that it was nice to see a refreshed committee that is actively engaged. She thanked B. Dinwoodie for her support in helping meetings run smoothly. On the strategy side, the committee reviewed the key priorities for this year, which include: hybrid learning environment, innovations in pedagogy, and EDI. We can see those themes coming out during today's meeting.

L. Zucker reported that the committee received a presentaiton from L. Livingston and S. Cantrell focused on the university's integrated planning. As S. Cantrell settles into the

role, she will be very helpful to the community. The committee also started the Board retreat planning, which is tentatively scheduled for May 12.

The committee is now responsible for the oversight of major projects and contracts. She referred the Board to the project material included in the meeting package. She noted that the AVIN project will be wrapping up in early 2022. AVIN is a 5-year initiative that has been successful and they will be looking to extend it.

9.1 Project Updates – Questions Only

The Chair noted that the ACE expansion project is close to the finish line. He asked whether things are progressing to their satisfaction. B. MacIsaac responded that the big test will be during the December shut down. By the third week of January, they should have a good idea as to whether they will finish on time. B. MacIsaac advised that the deficiencies on the new building have gone from a 31-page deficiency list to 4 pages and the change orders outstanding are less than $100,000.

10. Consent Agenda:

Upon a motion duly made by M. Saros and seconded by S. Chow, the Consent Agenda was approved as presented.

10.1 Minutes of Public Session of Board Meetings of June 24, 2021
10.2 Minutes of Public Session of A&F Meeting of June 16, 2021
10.3 Minutes of Public Session of GNHR Meeting of May 27, 2021
10.4 Minutes of Public Session of S&P Meeting of May 13, 2021
10.5 Minutes of Public Session of Investment Meeting of June 2, 2021
10.6 Statement of Investment Policies Update
10.7 Policy Against Violence in the Workplace

There was a question about the procedures – Have heard of other institutions asking victims of workplace violence to sign NDAs. Is there anything like that in our policies/procedures? S. Murphy advised that agreements reached with individuals are done on a case by case basis. C. Foy advised it is difficult to answer in the abstract as it involves privileged legal advice. The traditional approach to settling claims is to pay a sum in exchange for a confidentiality/non-disclosure agreement.

11. Information Items:

A&F

11.1 Freedom of Expression Annual Report
11.2 Internal Reserves/Surplus Discussion Paper

S&P

11.3 ACE Enhancement Project & New Building Project Updates

11.4 AVIN Project
GNHR
11.5 Board PD 2020-2021
11.6 2022 Board Election Process

12. Other Business

13. Adjournment
Upon a motion duly made by M. Saros, the public session adjourned at 2:37 p.m.

Becky Dinwoodie, Secretary

BOARD OF GOVERNORS
Audit & Finance Committee

Minutes of the Public Session of the Meeting of Wednesday, November 24, 2021
2:00 p.m. to 3:20 p.m., Videoconference

Members:	Laura Elliott (Chair), Stephanie Chow, Douglas Ellis, Mitch Frazer, Thorsten Koseck, Dale MacMillan, Steven Murphy, Dietmar Reiner,
Staff:	Becky Dinwoodie, Jackie Dupuis, Cheryl Foy, Barb Hamilton, Krista Hester, Lori Livingston, Brad MacIsaac, Susan McGovern, Pamela Onsiong
Regrets:	Kim Slade, Roger Thompson
Guests:	Sylvie Bardin, Chelsea Bauer, Toba Bryant, Mike Eklund, Christine McLaughlin, Namdar Saniei, Hannah Scott

1. Call to Order

The Chair called the meeting to order at 2:01 p.m.

2. Agenda

Upon a motion duly made by D. Ellis and seconded by T. Koseck, the Agenda was approved as presented.

3. Conflict of Interest Declaration

None.

4. Chair's Remarks

The Chair welcomed the committee to their first meeting of the Board year. She also acknowledged that it was the first committee meeting following the restructuring of the Investment and Audit & Finance Committees. She welcomed the newest members of the committee: Doug Ellis, Thorsten Koseck, and Kim Slade. The Chair commented that she is looking forward to continuing to work with committee members to advance the committee's mandate, which has been updated to incorporate oversight of the investment of the university's endowment funds.

The Chair noted it has been a difficult fall as people navigate their way back to work and try to balance working from home and working in the office. It is understandable that there will be challenges ahead.

5. President's Remarks

The President welcomed the committee members back. He acknowledged the faculty and staff who have gotten students through another semester. The President reported on a recent presentation given by Stephen Marsh to Academic Council. S. Marsh shared his innovations in his home classroom. The President thanked L. Livingston for steering us through COVID. He advised the committee that the focus is on September 2022, learning the lessons from the past two years and placing students at the centre of the experience.

The President reported on the Woman for STEM Summit that took place in October. This initiative is important in helping build a pipeline of women in STEM disciplines, as well as providing bursaries and scholarships, and opportunities for mentorship. The President also shared the great news with respect to the university's rankings - Maclean's ranked the university ninth in the category of primarily undergraduate universities. He acknowledged the work of the Registrar, Joe Stokes, in making sure ranking agencies have what they need to acknowledge Ontario Tech for our growth.

The President also discussed the launch of Canada's International Atomic Energy Agency Collaborating Centre at the university. Ontario Tech is the first university in Canada to have a collaborating centre. The trajectory of the university is strong and he looks forward to discussing the budget with the committee today.

The Chair echoed the President's comments about the presentation by S. Marsh and observed the excitement of the attendees of the session.

6. Annual Terms of Reference Review

B. Dinwoodie provided an overview of the committee's updated terms of reference. There was a question about how many times the committee meets per year and B. Dinwoodie confirmed that the committee meets four times a year.

7. Finance

7.1. Strategic Risk Discussion: Financial Sustainability - Reserves

B. MacIsaac provided a high level overview of the accompanying reports. He highlighted the following key points:

- important for the committee to be aware that there are often unexpected things that happen that result in a surplus;

- the univeristy is sometimes mandated to collect a reserve (e.g. Health & Wellness Centre); and
- important to set aside funds for deferred maintenance.

The committee had a robust discussion about reserves, which included the following comments and questions:

- the background paper was clear and written at the right level for the committee;
- strategy of deferred maintenance - Does that increase the university's risk or cost? Are we creating a risk that we need to be cognizant of?
    - B. MacIsaac advised that as many of the university's buildings are newer, we have not had to discuss deferred maintenance very often; however, as our buildings age, it is important to set aside funds to save for repairs.
- 10-year asset plan - What are the assets we would need to replace to ensure business continuity?
    - D. MacMillan advised that the Government of Canada recently published a fixed asset review and she provided the website link (https://www.canada.ca/en/treasury-board-secretariat/corporate/reports/improving-results-2017-horizontal-departmental-reviews/horizontal-fixed-asset-review-executive-summary-final-report.html).
- How do you manage these funds (visibility/transparency) and show withdrawals?
    - transparency can be improved;
    - manage funds with fixed/hybrid model - equipment and units update annually - must provide better information on IT projects; and
    - with respect to the budget process, there is greater transparency on what money is being spent on.
- Where are capitalization rates sourced, particularly for unique facilities?
    - Capitalization rates close to inflation but some differ depending on type of equipment.
- If the university were to increase enrolment, what would we need to do to accommodate 18,000 students?
    - Campus Master Plan shows how the university and Durham College could grow to 20,000 students each.

- B. MacIsaac advised that the COU standards were developed a long time ago and are high compared to what we need today; a COU task force has been tasked with reviewing and updating those standards – (e.g. being in Oshawa, the univeristy needs more space for food services than an institution located in downtown Toronto).
- Hybrid learning actually requires more space than less space, as there is a need for more smaller interactive engagement spaces.
- L. Livingston added that it is also important to create as equitable environments as we can between north and downtown campuses.

- What is the impact of online learning? Should campus be expanded if many students will be learning online?
    - B. MacIsaac advised that while the univeristy will not be returning to the old ways of instruction, if half of students are online and the other half in class, the university must enhance the IT infrastructure as well as in class infrastructure; investment in IT/Cloud will also be required and it is estimated that a $5m investment over several years would be needed; most of the digital infrastructure is the technology needed to do hybrid learning.
    - If we only focused on reserves, we used to set aside $3.5m per year and have not done so the past 2 years. The plan for next year is to set aside $2.5m for our starting point.
- How often are internal restrictions reviewed?
    - P. Onsiong advised that the restrictions are reviewed quarterly.
- There was a discussion about the usage rate of classroom space and examining revenue generation opportunities for space not being used at night and on weekends that align with the university's mission.
    - S. Murphy added that we must also think about how we can bring community members onto campus and promote the university as a community hub.
- How do the recommendations set out in the accompanying paper roll into the financials?
    - B. MacIsaac clarified that when it comes to the end of the year, management will make a recommendation as to what to set aside in light of a deficit/surplus.

7.2. Second Quarter Financial Reports

P. Onsiong reviewed the financials with the committee. She highlighted the forecasted budget surplus due to an upside in revenues due to better than expected enrolment. She also noted the shortfall for domestic intake that will have a flow through for future years. P. Onsiong also highlighted the unanticipated grants, COVID support funding, eCampus Ontario grants, and grants for maintenance. These have all been allocated to cover specific expenses (reflected in academic support and capital expenses). P. Onsiong also discussed the increasing recruitment costs to support enrolment growth and scholarships. There has also been an additional $4.3m of capital expenses, 35% covered by operating investment and 65% covered by grants. The university has invested $21m in the new building with the remainder covered by financing. P. Onsiong and B. MacIsaac responded to questions from the committee. In response to a question about whether the enrolment numbers are being overly optimistic, B. MacIsaac advised that as we look at the short term, it is a very positive indicator. The university brought in and retained more students than anticipated. Further, the international intake is above the 2-year plan. He noted that it is the second year in a row that we missed domestic intake numbers, which will have a flow through effect. We will have to focus on recruitment and retention to make up for that shortfall. It remains difficult to anticipate what the ongoing impacts of COVID will have on international travel.

7.3. Budget Assumptions

B. MacIsaac reviewed the key budget assumptions. He emphasized that priorities drive the budget and not the other way around. In order to increase revenue, we must increase the number of students. Total enrolment is anticipated to be down next year compared to this year. Total revenues are up because of the increase in international students and international tuition, whereas domestic enrolment is anticipated to remain flat. Further, there is a $6m increase in full-time labour.

L. Livingston discussed the strategic priorities that are driving the budget. The Integrated Academic and Research Plan captures the university's priorities and is updated annually in consultation with the university's units. The key areas of priority are:

- mental health and supporting EDI initiatives;
- recruitment;
- innovative programming;

L. Livingston advised that they anticipate $75m in asks for only $3.5m in surplus. After a number of years of cutbacks, it is a good position to be in to invest for the future. There was a discussion regarding the next steps, which include town halls and stakeholder engagement.

L. Livingston and B. MacIsaac responded to comments and questions from the committee, which included:

- When units are invited to present asks, how are one-time asks versus long-term asks approached?
    - This year, units can request base or one-time asks – the last few years, units were limited to one-time asks;
- Member expressed support for the priorities set out in the accompanying report - investment in human resources will be required.
- Is management comfortable with the enrolment assumptions?
    - L. Livingston confirmed that they are comfortable with the assumptions; the university is being cautious about relying on international students by limiting international growth and diversifying the markets from which we recruit our students (e.g. Africa, Vietnam).

8. Investment Oversight

8.1. Annual Review of Statement of Investment Policies (SIP)

B. MacIsaac discussed the background work that was done by the Investment Committee last year to update the SIP. He provided an overview of the proposed changes to the SIP that were set out in more detail in the accompanying report.

Upon a motion duly made by T. Koseck and seconded by D. MacMillan, the Audit and Finance Committee unanimously recommended the proposed amendments to the Statement of Investment Policies, as presented, for approval by the Board of Governors.

9. Consent Agenda:

9.1. Minutes of Public Session of A&F Meeting of June 16, 2021

9.2. Minutes of Public Session of Investment Meeting of June 2, 2021

Upon a motion duly made by D. MacMillan and seconded by S. Chow, the Consent Agenda was approved as presented.

10. For Information:

10.1. Freedom of Expression Annual Report

11. Other Business

12. Adjournment

There being no other business, upon a motion duly made by T. Koseck, the meeting adjourned at 3:21 p.m.

Becky Dinwoodie, Secretary

BOARD OF GOVERNORS
Governance, Nominations & Human Resources Committee (GNHR)

Minutes of the Public Session of the Meeting of October 21, 2021
2:00 p.m. – 3:40 p.m., Videoconference

Members: Maria Saros (Chair), Laura Elliott, Mitch Frazer, Kathy Hao, Kori Kingsbury, Steven Murphy,

Regrets: Francis Garwe, Dietmar Reiner, Trevin Stratton

Staff: Jamie Bruno, Sarah Cantrell, Cheryl Foy, Barb Hamilton, Krista Hester, Lori Livingston, Brad MacIsaac, Krista Secord

Guests: Chelsea Bauer (FA), Mike Eklund (FA), Christine McLaughlin (FA), Jordyn Perreault-Laird (OCUFA), Hannah Scott (FA)

1. Call to Order

The Chair called the meeting to order at 2:03 p.m.

2. Agenda

The Chair noted that item 16.2 will be deferred until the Board meeting.

Upon a motion duly made by L. Elliott and seconded by K. Kingsbury, the Agenda was approved as amended.

3. Conflict of Interest Declaration

None.

4. Chair's Remarks

The Chair thanked the university community for a gradual and safe return to campus. Work continues to ensure the Board is as effective and engaged as possible. She hopes everyone had an opportunity to review the material in advance of the meeting, as they will be discussing several important topics, including the continued work on the EDI statement.

5. President's Remarks

The President welcomed everyone to the start of another Board year. He discussed the start up and reported it has been a smooth and safe transition. He shared that his conversations with students have the same themes: they are happy to be back on campus and they feel very safe when on campus. He is hearing similar comments from faculty and staff. This provides a good basis for thinking about how we move forward together as a community. The university took a prudent approach as it was uncertain as to what the fourth wave was going to look like and it is promising to see that vaccinations seem to be working on flattening and even reducing the curve.

The President emphasized the importance of discussing what the university will look like in a post-COVID era. He has been holding consultations with Academic Council and other groups. He has no doubt that the university will come out of it with a strong value proposition. The community has rallied during the pandemic and he is proud of what we have been able to achieve. He noted that we will have a better idea of what that will look like next September. The goal is not to get the model perfect in September 2022 but to start a journey that never ends.

The President also discussed the opportunity to change the model of how we are working. There are people across the region who are interested in being part of the univeristy's story but distance poses an obstacle. They are also thinking about what leadership will look like in this era. We are all looking for a more humane way to live and still accomplish a lot. While the model is not a perfect one, the university has made great strides and will continue to work to improve it. Focus continues to be on the space and IT side of things.

The Chair agreed that the university should not lose what is working well. There was a question about whether the Board would be returning to in-person meetings next fall. The President advised that the Board will be receiving a survey about the effectiveness of virtual, in-person, and hybrid meetings. The governors' feedback will be collected and will help guide how we move forward.

6. Governance

6.1 GNHR Terms of Reference Review

B. Dinwoodie provided an overview of the committee's terms of reference, which is an annual standing item for the first committee meeting of the year. It provides the committee members with an opportunity to refamiliarize themselves with the committee's mandate. A member inquired whether the committee's work on EDI needs to be incorporated into the terms of reference. There was a discussion about the process to update the terms of reference. C. Foy clarified that it would be advisable to wait until the full Board has an

opportunity to discuss the EDI statement and whether GNHR should be responsible for EDI work or whether it should be assigned to a smaller group.

6.2 Strategic Discussion: Future of Work

J. Bruno delivered a presentation on the Future of Work at the university. He provided an overview of the consultations that have been taking place. He welcomed the committee's advice on additional ways to set us up for success as we move forward and their feedback on the efforts that are already under way. J. Bruno explained that the university leadership was consulted to explore the necessary locations of the work being delivered (occasionally on campus (2 days or less) or primarily on campus (3 days or more)). He reported that the majority of positions only need to be on campus occasionally. He stressed that the consultation was focused on the position as opposed to individual employees. Further, the discussion is independent of costs.

J. Bruno advised that this work is being done in conjunction with space planning. He is having regular discussions with B. MacIsaac, which are focused on maximizing space usage as opposed to space reduction. He also discussed the importance of trying to understand the reasons for people leaving the university. Accordingly, metrics will be collected through exit interviews.

Questions and comments from the committee included:

- Support for grounding it at the position level as opposed to individual based – are there any positions that can be done completely remotely?
    - J. Bruno advised that they do not anticipate positions that will be completely off campus; while a position may not necessarily be held to a weekly schedule, almost every position is looking at some time on campus.
- Any consideration being given to allow employees flexibility by having days be activity based as opposed to day based (e.g. need to attend campus for meetings)? This would provide employees with the flexibility to avoid traffic or avoid using public transit.
    - J. Bruno confirmed that this is being considered and it is a long-term consideration.
- Would think that there would be a number of faculty who enjoy the remote work flexibility. For those who prefer to work remotely, is an alternate physical location up for consideration?
    - J. Bruno advised that external partners have been consuted to review the circumstances that need to exist for this possibility; the current thought is that staff should be available to attend campus as need be.
    - He advised that they must also take into consideration the different legislation that might apply to staff working outside of the province/Canada.

- Will there be changes to the footprint for office space and any reduced costs coming out of it? How does this align with the planning for students returning to campus?
    - Short-term focus is on repurposing space; the intent is not to lose the footprint of physical space but rather looking at opening it up for other purposes; they are always looking for new space for student learning and study space.
- Suggestion for metrics to involve student feedback on their experience given the importance of social activity on campus to students.
- Consultation with all stakeholders will be the key to success – once the program is in place, important to consider equity implications – ensure that people feel included in the organizational dynamic.

The Chair noted that the hybrid experience has not been positive as people participating virtually struggle to feel included and there is a natural vibe for those meeting in person. She also commented that she feels confident that it is being approached in a well thought out way.

6.3 Development of Board Governance EDI Strategy: Draft EDI Statement

The Chair provided an overview of the development of the EDI statement. She noted that there are not many other institutions where the Boards have started this type of work. The Chair reviewed the questions included in the accompanying report and invited the committee's feedback on the draft EDI statement.

The committee had the following comments:

- In a hybrid/remote environment, the land acknowledgment might differ depending on where people are participating from; accordingly, should provide some flexibility.
- Great to have such a statement when start work as governors; referred to the key takeaways, particularly ensuring that as a Board, members are reflective; the actions that come out of the philisophical statements will be most important;
- the assessment conducted at year end will help governors think about what we have accomplished as a Board coming out of our commitment to EDI; commended the work done by the working group.

The Chair confirmed that the draft statement will go to the full Board in December for consultation.

6.4 Update of Board 3-Year Governance Plan

C. Foy highlighted the governance accomplishments that have been made under the existing 3-year governance plan. She highlighted that the 2018-2020 governance plan was the first governance plan for the university. Much work has been done to enhance bicameral governance and enhance the role of Academic Council. C. Foy commented that it was timely that H. Scott and M. Eklund are in attendance, as they were involved in the by-law review, which formed a big part of the governance plan. She congratulated the committee and staff on the work that has been accomplished. She provided an overview of the potential priorities proposed in the report. She noted that we demonstrate leadership as a university with our commitment to good governance and it is important to consider how we continue that work.

The followng is a summary of the committee's feedback on the proposed priorities:

- Opportunity to do more formal/informal joint events with Academic Council (AC) – opportunity to educate more governors on the work of AC.
    - S. Murphy commented that informal opportunities are also important for relationship building and getting to know each other; he affirmed that L. Elliott's participation as a member of AC has been invaluable and that they are also looking for a Board liaison from AC.
    - the Chair added that informal gatherings would be a great opportunity as they would help build a sense of collegiality.
- Support the proposed priorities. Why was the improvement of Board engagement/effectiveness limited to the incorporation of technology as Board effectiveness goes beyond technology?
    - C. Foy clarified that the priorities can be updated to reflect that it goes beyond technology.
- L. Elliott confirmed that her participation in AC and the blended learning discussions have been hugely beneficial to her understanding of faculty concerns and issues they face; anything we can do to further develop the relationship between AC and the Board would be hugely advantageous; in light of the committee's previous discussion, the priorities should be done through the lens of EDI – what does this mean from an EDI perspective? Important to ensure that the Board focuses on EDI learning as there is much to be learned about equity, Indigenous culture, etc.
- If prioritize professional development, EDI should be at the top.
- The Chair agreed with including a review of the Board's skills matrix as there are a number of new governors and a changing landscape.

C. Foy confirmed that the priorities would be updated and presented to the Board for feedback

6.5 Board Engagement: Board PD work plan 2021-2022

C. Foy provided an overview of the proposed PD work plan. Based on the committee's discussions during the meeting, more EDI topics will be developed. This is the proposed schedule and it can be filled out as the committee would like. The committee supported the cybersecurity topic. The committee also supported keeping the sessions to 30 minutes as they feel it will encourage attendance. A suggestion was also made that a session focused on helping governors understand the academic landscape would be helpful (e.g. What are new trends emerging post-COVID across the sector).

7. Policy:

7.1 Workplace Violence Policy Review

J. Bruno advised that this was the final step in disentangling various policy documents, as set out in the accompanying report. There was a discussion regarding the recent news of sexual assaults occurring during orientation parties at other institutions. C. Foy clarified that the Student Sexual Violence Policy is distinct from this policy.

Upon a motion duly made by K. Kingsbury and seconded by L. Elliott, the Governance, Nominations and Human Resources Committee unanimously approved the following motions:

(a) *That the Governance, Nominations and Human Resources Committee hereby recommends the Policy Against Violence in the Workplace, as presented, for approval by the Board of Governors*

(b) *That the Governance, Nominations and Human Resources Committee hereby approves the Procedures Against Violence in the Workplace, as presented.*

8. Consent Agenda:

8.1 Minutes of the Meeting of May 27, 2021
8.2 2022 Board Election Process

Upon a motion duly made by L. Elliott and seconded by K. Kingsbury, the Consent Agenda was approved as presented.

9. For Information:

9.1 By-laws Implementation Update
9.2 Benefits Plan Amendment

10. Other Business

11. Adjournment

There being no other business, upon a motion duly made by L. Elliott, the public session adjourned at 3:05 p.m.

Becky Dinwoodie, Secretary

BOARD OF GOVERNORS
Strategy & Planning Committee (S&P)

Minutes of the Public Session of the Meeting of Thursday, October 7, 2021
2:00 p.m. to 3:45 p.m., Videoconference Only

Attendees: Lynne Zucker (Chair), Eric Agius, Carla Carmichael, Kevin Chan, Christopher Collins, Mitch Frazer, Matthew Mackenzie, Steven Murphy, Dietmar Reiner, Joshua Sankarlal, Jim Wilson

Regrets: Ahmad Barari

Staff: Sarah Cantrell, Becky Dinwoodie, Cheryl Foy, Barb Hamilton, Krista Hester, Les Jacobs, Lori Livingston, Brad MacIsaac, Sue McGovern

Guests: Mike Eklund, Faculty Association

1. Call to Order

The Chair called the meeting to order at 2:02 p.m.

2. Agenda

Upon a motion duly made by D. Reiner and seconded by M. Mackenzie, the Agenda was approved as presented.

3. Conflict of Interest Declaration

There was none.

4. Minutes of Public Session of Meeting of May 13, 2021

Upon a motion duly made by J. Wilson and seconded by D. Reiner, the Minutes were approved as presented.

5. Chair's Remarks

The Chair welcomed the members to the first committee meeting of the Board year. She welcomed the newest committee members and invited them to introduce themselves. The Chair commented that the university is on a new strategic path and that the name change symbolized an organization committed to transformation and COVID has required even greater transformation. The Chair reflected that this is a critical committee composed of

great members. She noted that members should support the senior leadership team and the Board in critical decisions that will need to be made. She encouraged all members to share their views and actively engage by asking questions.

6. President's Remarks

The President thanked the Chair for her kind words. He added that you cannot transform an organization without an excellent senior leadership team. He echoed the Chair's comments about the committee being composed of great people.

The President provided an update on the start of the school year. It has gone smoothly, so far. While there are fewer people on campus, there is activity on campus, which is great to see. He shared that he has observed students complying with the masking and distancing requirements. He commended the Provost for building on what we have learned about online learning over the past 18 months. There was a deliberate decision made in the spring that a gradual return would be the best way to return to campus. Many institutions gambled on the idea that the Delta variant would be under control by September. Other leaders did not acknowledge the mental health aspects of returning to campus and the anxiety people would experience in the face of returning. Instead, the university's focus has been on a gradual return to normalcy over this year and to be ready for a full return in September 2022. The university will continue to build on what a hybrid model will look like. Students have made it clear that they want flexibility in their education. On campus experiential learning is important and it is also important to make it student-centric. The President noted that many faculty are already delivering this type of education.

The President emphasized the importance of showing leadership during this time, particularly with respect to the mandatory vaccination policy. The feedback from the community has been positive and people have shared that they feel safe when on campus. The President stressed the importance of learning from what we are going through. There is no expectation to be perfect by next September. The goal is to be a learning organization and to continue getting better every semester by putting students first. It is also important to work to avoid the human tendecy to want to return to the comfortable state of normal. He shared his excitement for the future and about working with the committee.

The President responded to comments and questions from the committee, which included:

- Great job on getting the campus opened safely;
- Support the approach of prioritizing the health and safety of the campus community;

- Does the President have a sense of what things are like off-campus? Are students using the same level of caution?
    - In general, we are seeing a lot more responsibility off-campus compared to other institutions. It is likely because the signal is coming from on campus that it is being taken very seriously. The President noted that there is a good group in shared services that are promoting COVID precautions. Further, we are not seeing the level of partying being experienced at other institutions. The tone set at the university has led to a more serious move-in. They have the sense that students are acting appropriately.
- Is the behaviour being observed at other institutions normal or is it indicative of students being away from campus for a year and a half?
    - The student culture at each university is different. There have always been people who have looked out for the well-being of students. Activism is being seen at institutions that have a history of issues. The President confirmed that he has regular meetings with J. Sankarlal, the President of the Student Union.
- The pandemic has forced us to change a lot of things – there is a best of both worlds opportunity going forward. Has thought been given to how this impacts strategy and executing the strategy?
    - The President discussed the university's success in the eCampusOntario grant competition – highest number of faculty members receiving grants in the province ($2.5m). The strategy of getting people to see the advantages of incorporating technology is working and faculty are being given the power and agility to make the changes rather than being told to do so by the President.
    - Students are also demanding this flexibility and type of teaching, which helps change the culture.

7. S&P Terms of Reference Review

B. Dinwoodie provided a high-level overview of the committee's Terms of Reference and highlighted the recent changes to the committee's responsibilities.

8. Strategy

8.1 Strategic Discussion: Strategic Priorities for 2021-2022

The President reviewed the university's four key strategic priorities: tech with a conscience, learning re-imagined, partnerships, and sticky campus. He discussed the key priorities for the upcoming year, as outlined in the report included in the meeting material:

(a) Sticky Campus: Commitment to Mental Health and Equity, Inclusion and Diversity
(b) Sticky Campus/Learning Re-imagined: Student-centric university: Strategic Enrolment Management Framework
(c) Learning Re-imagined/Tech with a Conscience: Innovative programming
(d) Learning Re-imagined/Tech with a Conscience: Differentiated Technology and Physical Space
(e) Learning Re-imagined/Partnerships: Incentivize Scholarship of Teaching and Enhancing Teaching Practices

The Provost discussed the university's EDI work plan, which was developed by the EDI Director. Work has begun on training on unconscious bias and EDI for all hiring committees. The Provost advised that there will be a strategic enrolment management retreat with all of the Deans in early November. The univeristy is becoming heavily invested in better understanding our data, an area where S. Cantrell will be particularly helpful.

The Provost emphasized that good pedagogy transcends the medium and the platform. Someone that is good at their pedagogy will excel in every situation. It is important to incentivize good teaching. The Provost discussed the Teacher in Residence program, which started this year. Both teaching and research can be valued.

The committee had a robust discussion of the key strategic priorities for the year. The committee's comments and questions included:

- What was left on the cutting room floor?
    - The Provost responded that if all five of these priorities do not get done this year, then the senior leadership team is not doing their jobs effectively. These items are more important than the other items in the integrated plan. She noted that there is still much in the plan that is relevant and as the university matures, other items will come to the forefront.
- Good to see mental health as a priority.
    - The Provost commented that the university is always striving to improve these services. The university is 4th out of 19 primarily undergraduate universities in Canada when it comes to the provision of mental health services to our students according to Maclean's rankings.
- The key priorities identified fit well with the university's overall strategic priorities and supports the student-centric approach.
- The committee discussed developing appropriate metrics to track progress against these priorities.
- Do these priorities help advance the 2023 goals and are there any risks associated with them?

- The President stated that this is the beginning of a journey and that these priorities do help advance the university's goals and they help build the foundation for advancing the strategic priorities. The biggest risk is the human desire to slide back to the comfortable state.

The Chair suggested coordinating a virtual tour of Shawenjigewining Hall at the December Board meeting.

9. Planning

9.1 Strategic Plan Oversight

The Provost introduced S. Cantrell, the new Associate Vice-President, Planning and Strategic Analysis, to the committee. The Provost and S. Cantrell delivered a presentation on the strategic planning process, which was also included in the meeting material. They responded to questions and comments from the committee members:

- Rolling enrolment average – What is the risk level when we reach the end of the SMA and the government examines the rolling enrolment average over the duration of the SMA?
  - S. Cantrell advised that we do want to bend the blue line up (slide 8) and that we need to be at least at the midpoint or above.
- In the planning methodology, is there any point where gaps are explored that might be required to help achieve goals?
  - The Provost advised that we must be realistic about the goals and priorities being set. A gap identified was that our technological assets need to be improved and investments in technology have been made to address that gap.
  - Every unit is asked to review their priorities annually and identify resources needed to achieve those priorities.
  - C. Foy added that the university has a strategic risk register and the risk management team will be coordinating with the planning team to help identify gaps.
- With respect to enrolments, looks like we are back in a good place – what is driving our projections down?
  - Enrolment corridor graph only includes eligible students – what is driving the downward piece is that there were a number of incoming years where the enrolment target was missed and if we don't course correct, we will have a bit of a U curve to deal with; changing course on the enrolment trajectory for the entire institution is challenging – we need to continue to look at student retention and student support. These strategies can help flatten that curve.

9.2 Integrated Plan: Process & Enrolment Update

Discussed in item 9.1.

9.3 Board Retreat Planning

S. Murphy proposed continuing to hold the Board Retreat in May, which follows the timing of the past few years. He suggested holding the retreat on the morning of May 12, before the S&P meeting in the afternoon. S. Murphy invited the committee's feedback on focusing the retreat on a review and refresh of the university's strategic plan, which would be timely in light of the following:

- we will have recently completed community consultations on the strategic focus of the university and the challenges/opportunities facing the university over the next 3-5 years as part of the Presidential renewal process;
- work being done by the Provost's Office on developing appropriate metrics for the strategic plan; and
- importance of reassessing where we are and where we are going in the context of emerging from the pandemic.

S. Murphy noted that it is important to continue the discussion of how we differentiate ourselves from other institutions and how we communicate that to our stakeholders. Further, it will be helpful to assess how we come through this year and start to set the direction as we emerge from COVID. C. Foy added that it will also be a good time to pause and look at where we are strategically with pillars and metrics. This can evolve throughout the year, but with everything going on, seems that this would be helpful to the Board and the university.

The committee expressed support for the timing of the retreat and the proposed topic.

10. Significant Project & Contract Oversight

10.1 New building

B. MacIsaac noted that the project is ending on time and on budget. The original plan was to have occupancy three weeks before the term started but it was open three days before the term. This was a good outcome given the delays at the start of the project. B. MacIsaac noted there are a number of deficiencies outstanding and confirmed there is sufficient contingency to cover it. D. Reiner congratulated the team on this outcome. B. MacIsaac advised that the remaining deficiencies are minor. B. MacIsaac discussed the uses of the new building:

- Focus on creating engaging spaces to support a “sticky campus” - spaces for student clubs/societies;
- Main floor – “living room” feel with a Tim Horton’s and can spend time in a “collision space”;
- Student Life;
- Smaller engagement classroom spaces – movable tables & chairs, no podiums;
- 4th floor – Faculty of Health Sciences; and
- 5th floor shelled for future use by Faculty of Health Sciences.

10.2 ACE Enhancement

B. MacIsaac reported on the ACE Enhancement Project. He provided an overview of the stops and starts of the project. While the hope was for the project to be complete by September, over the summer, there was a major fan breakdown and it had to be repaired in the United States. They are now looking at completion in January. B. MacIsaac advised that they do not anticipate the delay will require any additional budget than what was approved by the Board.

The Chair stressed the importance of reviewing the meeting material in advance of every meeting.

Questions from the committee included:

- What is the longevity of the project? How long will we be able to use the equipment?
    - B. MacIsaac advised that the equipment was already aged when it was acquired – with the technical work that has been done, it is running in an almost brand new state. We will be able to conduct this type of repair every 5-years to keep the equipment runnning well.
    - Further, with the uniqueness of the moving ground plane and combining it with the climatic wind tunnel, this will be a relevant facility for a signficant period of time as no other facility has this in their plans in the near future.
- Any concerns about partners who have contributed to the ACE project being concerned about the delayed timeline?
    - B. MacIsaac advised there are no concerns at all.

10.3 AVIN (Autonomous Vehicle Innovation Network)

L. Jacobs provided an overview of the project. He noted it is a five year commitment and they are in the fourth year. The project is on budget and the funding has been robust. He advised that in the last budget, the province committed to extending the funding for the

project and it will be renamed OVIN (shift from autonomous vehicles to electrification of vehicles). L. Jacobs highlighted the importance of our role in the project. He reminded the committee that in the Strategic Research Plan, the key idea is research intensity and the need for a series of anchor research initiatives (initiatives that generate secondary research initiatives). He noted that that AVIN has been an excellent anchor initiative.

11. Other Business

12. Adjournment

Upon a motion duly made by J. Wilson, the public session adjourned at 4:02 p.m.

Becky Dinwoodie, Secretary

BOARD REPORT

SESSION:		**ACTION REQUESTED:**	
Public	☒	**Decision**	☒
Non-Public	☐	**Discussion/Direction**	☐
		Information	☐

TO: **Board of Governors**

DATE: **March 10, 2022**

FROM: **Audit & Finance Committee (A&F)**

SUBJECT: **Revised Statement of Investment Policies**

COMMITTEE/BOARD MANDATE:
The Board is responsible for governing and managing the financial affairs of the university. A&F is responsible for overseeing the management of the university's investments (Funds) in accordance with the university's Statement of Investment Policies (SIP). This includes, but not limited to: reviewing on an annual basis the SIP and making appropriate recommendations to the Board.

A&F is recommending the proposed revisions to the SIP for approval by the Board to ensure more accuracy in reporting and accountability.

BACKGROUND/CONTEXT & RATIONALE:

In May 2021 a survey was sent to all investment committee members to help outline the overall investment objective with a keen eye on assessing their opinion of institutional risk appetite as a university official. At that time the committee noted that it is important to keep a longer-term view (i.e five years rather than three) on the performance. Note, normally industry practice does not report on four-year returns. In June 2021 the recommended changes to the SIP were approved; however, one item related to the time weighted rate of return was not captured. In section 7 Performance Expectations we need to alter form a four-year review to five:

7.0 Portfolio Returns

The portfolio is expected to earn a pre-fee rate of return in excess of the benchmark return over the most recent ~~four~~five-year rolling period. Return objectives include realized and unrealized capital gains or losses plus income from all sources. Returns will be measured quarterly, and calculated as time-weighted rates of return.

In order to meet the university's disbursement requirements, investments need to earn a minimum level of income, measured over a ~~four~~ five-year rolling market cycle. The minimum recommended level is defined as the sum of the following items:

Minimum disbursement requirement	3.5%
Investment management fees	0.5%
Capital preservation amount	2.0%
Minimum Rate of Return	6.0%

Note: The disbursement requirement and capital preservation amounts will be reviewed, and updated as required.

IMPLICATIONS:

These changes are intended to make the SIP document fully functional.

MOTION for CONSIDERATION:

- *That pursuant to the recommendation of the Audit & Finance Committee, the Board of Governors hereby approves the proposed amendments to the Statement of Investment Policies as presented.*

SUPPORTING REFERENCE MATERIALS:

- none

BOARD REPORT

SESSION:		**ACTION REQUESTED:**	
Public	☒	**Decision**	☒
Non-Public	☐	**Discussion/Direction**	☐
		Information	☐

TO: **Board of Governors**

DATE: **March 10, 2022**

FROM: **Academic Council**

SUBJECT: **Update of Steering Committee Terms of Reference – Delegation of Authority**

MANDATE:

- In accordance with Article 1.4 of By-law No. 2, Academic Council will make recommendations to the Board on matters including the establishment and terms of reference of committees to exercise the Academic Council's delegated authority under By-law No. 2.
- Academic Council is recommending the updated Steering Committee Terms of Reference for approval by the Board of Governors.

BACKGROUND/CONTEXT:

- States of emergency declarations were made at various levels of government and internationally in March 2020 due to the COVID-19 pandemic. In compliance with the directives coming from government, the university enacted measures and implemented contingency plans to manage the implications of the pandemic affecting the university community.
- AC engaged in governance contingency planning and at a special meeting of AC held on March 31, 2020, AC approved a motion requesting the Board's approval of an amendment to the Terms of Reference of the SC. The amendment recognized that in times of emergency, AC may need to delegate its authority to the SC in order to make timely decisions, and provide timely input into university decisions.
- The Executive Committee of the Board approved the updated SC Terms of Reference on April 7, 2020.
- Coming out of Academic Council's discussions in September and October 2021 about the delegation of authority to the SC, Council gave a clear indication that the SC should have a more permanent delegated authority.

- A review of the SC terms of reference was then added to the GNC work plan for this year.
- The proposed amendments to the SC terms of reference were presented to the SC for feedback on January 11 and their comments were shared with the GNC at their meeting on January 12.
- The updated SC terms of reference incorporates feedback from both SC and GNC.

Key Amendments:

- Maintain provision with respect to temporary delegation of authority in the event of an emergency or extraordinary circumstance.
- Remove requirement for AC to review the temporary delegation of authority monthly, as this seemed to be a pain point for AC.
- Add a provision that the delegation of authority to the Steering Committee may be enacted when AC is unable to achieve quorum due to an emergency or extraordinary circumstance. This would help ensure governance continuity in the event that AC could not achieve quorum to enact the authority under s. 1(b).
- Steering Committee would have authority to act on behalf of AC over the summer months on non-contentious items that require immediate action. This authority is common for the executive committees/agenda committees of other institutions and was previously included for the former Academic Council Executive Committee (ACX).
- For items that are or may be contentious, the SC may act on behalf of AC in the summer months only where an effort to achieve quorum at a special meeting of AC has failed, and the item requires immediate action.
- SC may act on behalf of AC in time-sensitive situations that arise between meetings of AC on the same principles set out for the summer months. Several other institutions have enacted a similar authority and this would be consistent with the authority of the university's Board of Governors' Executive Committee.

Feedback from the Steering Committee:

The Steering Committee reviewed and provided feedback on the proposed amendments at their meeting of January 11, 2022. The members had the following comments:

- Supported separating the different types of delegation of authority;
- Supported using the word "may" as opposed to "will";
- Anticipated push back on the final delegation of authority in time sensitive situations;
- Asked for clarification as to whether the intention is for the Steering Committee to meet regularly over the summer – B. Dinwoodie clarified that the Steering Committee would be convened only if necessary over the summer months;
- With respect to the delegation of authority in section (e), suggested that should try to hold a meeting of AC to deal with a pressing matter and if unable to achieve quorum, would delegate authority to the Steering Committee;
- Suggestion to add a statement that AC normally meets between the months of September and June;
- Suggestion that in every instance, an effort should be made to call an AC meeting when needed and include that as an overarching statement. In between regularly scheduled meetings, if quorum cannot be reached for an emergency meeting, then Steering Committee has authority to act;

- Consider whether we distinguish between standard/routine matters and more broad/institutional matters;
- Suggestion that should leave room for the Steering Committee and AC Chair to determine what is categorized as a standard/routine matter;
- Suggestion to include a statement about the commitment to collegial governance and importance of AC as the foundation – make clear that it's not about shifting power to the Steering Committee and this may alleviate some concerns.

Feedback from GNC:
The GNC reviewed the proposed amendments and the comments of the SC during their meeting on January 12. The GNC had the following feedback:

- What kinds of actions can the SC make in interim situations? If it can wait for the next AC meeting, then it should.
- Suggestion to include language that SC may act in time-sensitive situations and on matters that cannot wait to be decided at the next AC meeting (e.g. conferral of degrees – routine and standard and could be decided by Steering Committee).
- Proposed language for the delegation of authority in sections 1(d) and (e) was incorporated and is included in the draft being presented to AC today.
- Clarified that AC would have the authority to reconsider any decisions made by SC under the delegated authority in accordance with Article 6.3 of By-law No. 2.

MOTION for CONSIDERATION:
That pursuant to the recommendation of Academic Council, the Board of Governors hereby approves the updated Steering Committee Terms of Reference, as presented.

SUPPORTING REFERENCE MATERIALS:

- blacklined Steering Committee Terms of Reference

ACADEMIC COUNCIL
Steering Committee

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1. TERMS OF REFERENCE

a. The Steering Committee ("Committee") is the body responsible for facilitating the work of Academic Council ("AC"). The Committee's responsibilities include:
   i. coordinating the business of AC by reviewing and approving the agendas of AC meetings;
   ii. assigning all matters deemed routine and uncontroversial to the consent agenda;
   iii. reviewing the reports and proposals being presented to AC to ensure that relevant background material is available to AC members prior to meetings;
   iv. receiving and reviewing suggested agenda topics from the community and determining whether they are appropriate topics for discussion by AC;
   v. considering, preparing and scheduling discussions of broad academic interest between 2 – 4 times per academic year; and
   vi. coordinating annual reports from the subsidiary bodies of AC.

Authority to act on behalf of Academic Council

b. AC may approve a temporary delegation of its authority to the Committee because of an emergency or extraordinary circumstance, as declared by AC.~~:~~

   ~~(a)~~i. The AC must grant the temporary delegation of authority by resolution.
   ~~(b)~~ii. The AC may also limit the scope of this delegation.
   ~~(c)~~iii. The delegation of authority will take effect as of a date to be determined by AC or will be triggered by the inability of AC to reach quorum.
   ~~(d)~~iv. The delegation of authority will remain in effect until the emergency or other extraordinary circumstance has ended, or until amended or revoked by AC by resolution, whichever is earlier.
   ~~(e) The Committee will make all efforts to arrange Academic Council meetings such that this delegation of authority is reviewed monthly, or as quickly thereafter as possible.~~
   ~~(f)~~v. The Committee will report all actions taken on behalf of AC to AC for information as soon as is reasonably possible.

Commented [BD1]: Removing this provision will keep the delegation of authority in place until revoked by a resolution of Academic Council or emergency/extraordinary circumstance has ended, whichever is earlier.

c. The Committee may also act on behalf of AC when a quorum cannot be reached due to an emergency or extraordinary circumstance, as determined by the

Committee.

d. AC normally meets monthly from September to June, except December. During the summer months, the Committee may act on behalf of AC on non-contentious items that require action prior to the first regular meeting in September. For items that are or may be contentious, the Committee may act on behalf of AC in the summer months only where an effort to achieve quorum at a special meeting of AC has failed, and the item requires immediate action. The Committee will report to AC, at its first regular meeting in September, what action has been taken under this authority.

e. The Committee may act on behalf of AC in time-sensitive situations that arise between meetings of AC on the same principles set out in d. for the summer months, and will report to AC at its next regular meeting the action that has been taken under this authority.

Commented [BD2]: This would provide assurance for continued governance in the event that AC could not achieve quorum during an emergency to exercise the delegation of authority under 1(b).

Commented [BD3]: Suggested change from Steering Committee

Commented [BD4]: Suggested change from GNC

Commented [BD5]: Suggested change from GNC

Commented [BD6]: Authority similar to that of the Board's Executive Committee. There are a few other institutions that have a similar authority for their senate executive committee.

2. MEETINGS

The Committee will meet at least 2 weeks before each meeting of AC, or otherwise at the Committee Chair's discretion. In accordance with the ~~*UOIT*~~ *university's Act* and By-laws, the Committee ~~shall~~ will conduct two types of meetings as part of its regular administration: Public and Non-Public.

Commented [BD7]: Editorial amendment – remove reference to UOIT

3. MEMBERSHIP

The Committee shall be composed of:

Ex-officio

- President & Vice-Chancellor (Chair)
- Provost & Vice-President, Academic
- Chair of the Academic Council committee responsible for undergraduate curriculum
- Chair of the Academic Council committee responsible for graduate curriculum
- Chair of the Academic Council committee responsible for research
- Secretary of Academic Council (non-voting)

Elected Representatives from Academic Council

- Between three (3) and six (6) elected representatives of Academic Council (Teaching Staff, Administrative Staff and Students) to ensure the Committee benefits from a balance of skills, expertise, and knowledge among its

membership, while reflecting the demographic and cultural diversity of the communities served by the university.

- One of the elected representatives will also serve as Vice-Chair of Academic Council and the ~~Agenda~~ Committee. The Vice-Chair will be selected in accordance with the relevant procedure established by the Governance and Nominations Committee.

Commented [BD8]: Editorial change – Steering Committee incorrectly referred to as Agenda Committee.

4. QUORUM

Quorum requires that a majority of the Committee members entitled to vote be present.

COMMITTEE/BOARD REPORT

SESSION:		**ACTION REQUESTED:**	
Public	☒	**Decision**	☐
Non-Public	☐	**Discussion/Direction**	☐
		Information	☒

TO: **Board of Governors**

DATE: **March 10, 2022**

PRESENTED BY: **Brad MacIsaac, VP Administration**

SUBJECT: **Ontario Tech Credit Rating**

COMMITTEE/BOARD MANDATE:
The committee is responsible for overseeing the financial affairs of the university with respect to all financial reporting/ internal control functions, budget approvals, risk management and other internal/ external audit functions at the university. The committee also oversees the university's compliance program.

We are providing this report to the committee to assist with the fulfilment of the committee's financial oversight mandate, and as required by the covenants in the university's debenture.

BACKGROUND/CONTEXT & RATIONALE:

Ontario Tech has issued debt (debentures) initially valued at $220M. Covenants in the First Supplemental Indenture Agreement require annual credit ratings from two credit rating agencies. The University uses Dominion Bond Rating Services (DBRS) and Moody's Investor Service.

This report provides an update on Ontario Tech credit ratings, which were issued in December 15, 2021 (Moody's) and December 16, 2021 (DBRS).

Both have remained at previous levels: Moody's has confirmed our Credit Rating at A1 - Stable. DBRS has confirmed our Credit Rating as A (low) – Stable. Although Ontario Tech ratings have trended positively over the past five years, our credit rating remains at the low end of the range in our sector. This is due to high debt levels which are a consequence of the Provincial choice to have Ontario Tech fund its own initial infrastructure costs.

In reaffirming their ratings, both agencies acknowledged Ontario Tech's positive operating results while highlighting the pressures caused by flat government grants and frozen tuition framework especially in the uncertain times caused by COVID. Neither noted concerns with the declining reserves as we were clear on our plans for internally financed large capital projects instead of taking on new debt. Moody's noted the university has been successful in the past with similar financing strategies, with the goal of replenishing reserves following internal draws.

IMPLICATIONS:

Credit ratings assess a debtor's ability to pay back debt by making timely interest payments and the likelihood of default. It affects the interest rate that a security pays out, with higher ratings leading to lower interest rates. A credit rating also facilitates the trading of securities on a secondary market. For Ontario Tech, an improved credit rating would result in lower borrowing costs on future debts.

NEXT STEPS:

Continue working with DBRS and Moody's to provide information, highlight Ontario Tech's operational improvements, and to ensure our credit rating accurately reflects the university's fiscal position.

SUPPORTING REFERENCE MATERIALS:

Moody's Credit Opinion – Dec 2021

DBRS Rating Report – Dec 2021

MOODY'S
INVESTORS SERVICE

Announcement of Periodic Review: Moody's announces completion of a periodic review of ratings of University of Ontario Institute of Technology

15 Dec 2021

Toronto, December 15, 2021 -- Moody's Investors Service ("Moody's") has completed a periodic review of the ratings of University of Ontario Institute of Technology and other ratings that are associated with the same analytical unit. The review was conducted through a portfolio review discussion held on 10 December 2021 in which Moody's reassessed the appropriateness of the ratings in the context of the relevant principal methodology(ies), recent developments, and a comparison of the financial and operating profile to similarly rated peers. The review did not involve a rating committee. Since 1 January 2019, Moody's practice has been to issue a press release following each periodic review to announce its completion.

This publication does not announce a credit rating action and is not an indication of whether or not a credit rating action is likely in the near future. Credit ratings and outlook/review status cannot be changed in a portfolio review and hence are not impacted by this announcement. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

Key rating considerations are summarized below.

The A1 rating of the University of Ontario Institute of Technology (Ontario Tech) reflects strong operating cash flows and solid wealth levels from cash and investments. The rating also reflects provincial debt service subsidies which support the university's debt affordability and provides debentureholder security. Credit challenges include a history of provincially mandated tuition freezes, as well as operating challenges through reduced demand for commercial/ancillary services and elevated pandemic-related expenses. Ontario Tech has seen strong international student enrolment during the pandemic which, coupled with significant expense containment efforts to address pressures, significantly cushions the financial impact on the university. The A1 rating incorporates a baseline credit assessment (BCA) of a3 and a high likelihood of extraordinary support coming from the Province of Ontario (Aa3) in the event that the university faced acute liquidity stress.

This document summarizes Moody's view as of the publication date and will not be updated until the next periodic review announcement, which will incorporate material changes in credit circumstances (if any) during the intervening period.

The principal methodologies used for this review were Higher Education Methodology published in August 2021 and Government-Related Issuers Methodology published in February 2020. Please see the Rating Methodologies page on www.moodys.com for a copy of these methodologies.

This announcement applies only to EU rated, UK rated, EU endorsed and UK endorsed ratings. Non EU rated, non UK rated, non EU endorsed and non UK endorsed ratings may be referenced above to the extent necessary, if they are part of the same analytical unit.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

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MORNINGSTAR | DBRS

Rating Report
University of Ontario Institute of Technology

DBRS Morningstar
December 16, 2021

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Ratings

Debt	Rating	Rating Action	Trend
Issuer Rating	A (low)	Confirmed	Stable
Series A Senior Unsecured Debentures	A (low)	Confirmed	Stable

Rating Update

On November 30, 2021, DBRS Limited (DBRS Morningstar) confirmed the University of Ontario Institute of Technology's (the University or Ontario Tech) Issuer Rating and Series A Senior Unsecured Debentures (the Debentures) rating at A (low). Both trends are Stable. In recent years, the University's credit profile has been supported by a strengthening academic profile, ongoing student demand for its science, technology, engineering, and mathematics (STEM) program offerings, positive operating results, and debt reduction. However, the ratings are constrained by Ontario Tech's limited financial flexibility as represented by DBRS Morningstar's calculation of expendable resources. In addition, the challenging operating environment and provincial policy uncertainty remain obstacles for all public universities in the Province of Ontario (Ontario or the Province; rated AA (low) with a Stable trend by DBRS Morningstar).

Despite recent operating pressures arising from the Coronavirus Disease (COVID-19) pandemic, Ontario Tech generated positive consolidated results in 2020–21 (surplus of $15.1 million) mainly driven by strict spending control and revenue growth from enrolment, additional government grant funding, and unrealized gains on investment. In March 2021, the provincial government announced new targeted funding for universities it considered were most severely affected by the pandemic. Ontario Tech received $4.8 million in additional, temporary operating funding under this new targeted funding. (See DBRS Morningstar's commentary Ontario Provides Relief Funding for Severely Affected Universities.)

The University anticipates balanced operating budgets through the near to medium term as campus facilities have gradually re-opened and with the resumption of international student travel. Despite growing competition, the University continues to see growth in both its international and domestic enrolment.

The University's debt burden remains the highest among DBRS Morningstar-rated Ontario universities at roughly $19,900 per full-time equivalent (FTE) student, although the circumstances surrounding Ontario Tech's debt burden remain unique in the Ontario context. The Province supports a large share of the University's annual debt-servicing costs through a restricted debt-servicing grant. While the legal obligations rest with the University, this arrangement effectively results in approximately one fifth of its debenture debt being serviced through its general operations (e.g., unrestricted operating grants, tuition

revenue). Following the addition of $25.0 million new long-term debt in F2022 and based on Ontario Tech's most recent enrolment forecast for the current year (November 24, 2021), DBRS Morningstar believes that debt per FTE ratio will remain elevated at more than $20,000 over the next few years, before gradually declining with debt amortization.

DBRS Morningstar does not expect the ratings to shift materially in the near term. However, sustained positive operating results and debt reduction, together with favourable resolution of operating and policy uncertainty, could lead DBRS Morningstar to consider changing the trend to Positive. Though unlikely, DBRS Morningstar could lower the rating if there is a significant and sustained deterioration in operating outlook and, thereby, the University's financial risk assessment.

Financial Information

	For the year ended March 31				
	2021	**2020**	**2019**	**2018**	**2017**
Operating result (adjusted, $ millions)	15.1	(2.6)	6.9	15.4	12.6
Debt per FTE ($)	19,898	21,796	22,682	23,363	24,702
Expendable resources to debt (%)	11.4	11.3	17.3	13.6	9.4
Interest coverage ratio (times)	2.7	2.0	2.5	3.1	2.8
Surplus-to-revenue (five-year rolling average) (%)	4.5	3.4	4.5	5.0	5.2

Issuer Description

Ontario Tech is located in Oshawa, Ontario, and provides career-oriented university programs and transitional programs to enable college graduates to complete university degrees. The University was established in 2002 and has an enrolment of more than 9,000 FTEs. Ontario Tech has developed a strong reputation for its STEM programming and industry partnerships.

Rating Considerations

Strengths

1. Provincial support

Universities are stable institutions and a critical component of the public sector. Access to high-quality postsecondary education remains a priority for the Province. As such, universities in Ontario and across Canada benefit from stable and consistent revenue sources. Government grants and tuition fees typically account for around 85% of revenue for Ontario Tech.

2. Established reputation

Ontario Tech has grown rapidly since its establishment in the early 2000s and has developed a strong reputation in several high-demand, engineering- and technology-related fields. The University ranks reasonably well in Canada for a new and small university and is well established in the Durham Region (Oshawa). Ontario Tech’s name recognition remains limited outside the Greater Toronto Area (GTA) but is improving with a growing alumni base and improved branding/visibility.

3. Effective financial management practices

Financial management practices have improved significantly over the past several years. The University has developed effective budget and planning processes, improved internal and external reporting, and made its operations more effective and cost efficient.

4. Defined contribution pension plan

Ontario Tech has a defined contribution pension plan, which alleviates the risk of meeting future benefit payments for retired employees. Defined benefit plans are the norm for Canadian universities.

Challenges

1. Constrained policy environment and limited control of revenue

Canadian universities have limited control over their main revenue sources—tuition fees and government grants. The Province imposed a 10% reduction on tuition fees for domestic students in regulated programs for 2019–20 and has effectively frozen domestic enrolment and operating grants. This limits the University's ability to increase revenue to meet rising costs. For Ontario Tech, this resulted in a revenue loss of $9.4 million (2019–20) and $12.0 million (2020–21).

2. Cost pressures and pandemic impacts

Underlying cost pressures are somewhat detached from the University's revenue drivers. Canadian universities' expense bases are largely fixed and growing in the form of tenured faculty, unionized support staff, externally mandated student aid requirements, and large infrastructure footprints. In recent years, inherent cost pressures have outpaced provincially controlled revenue growth for many DBRS Morningstar-rated universities. Ontario Tech has less operational flexibility to adjust to the constrained operating environment than larger, more established universities. The University responded to the pandemic with campus closure and a transition to online learning, which resulted in adverse financial impacts on income and some additional expenses toward student assistance, technology investments, and sanitization and extensive cleaning in F2021.

3. Limited balance sheet flexibility

Ontario Tech incurred losses for several years after its establishment in 2002, resulting in an accumulated deficit and a negative net-asset position. Over the last several years, net assets have risen, supported by positive operating results. Nevertheless, as a relatively small institution that has operated primarily in a constrained funding environment, Ontario Tech's balance sheet has limited financial flexibility compared with most other DBRS Morningstar-rated universities.

3. Sizable debt burden

Ontario Tech has the highest debt burden among DBRS Morningstar-rated Ontario universities at about $19,900 per FTE; however, the debt burden and its funding are unique among Ontario universities because the amortizing Debentures, issued when the University was established, are largely serviced by restricted debt-servicing grants from the Province. Effectively, Ontario Tech services one fifth of its debenture debt with general operations (e.g., unrestricted operating grants, tuition fees).

Operating Performance

2021–22 Budget and Interim Forecast

The University uses an incremental budget model and prepares its budget on a modified cash basis. The budget's scope differs somewhat from that of the audited financial statements, but variances between bottom-line results are clearly identified.

Based on the most recent financial update (six months ended September 30, 2021), Ontario Tech is forecasting a modest operating surplus in 2021–22. Estimated operating revenue is 4.9% higher than the original budget primarily because of stronger-than-anticipated enrolment (particularly returning students). Notwithstanding total enrolment growth, DBRS Morningstar understands that lower domestic first-year intake in F2020 and F2021 is likely to weigh on total enrolment over the next four to five years.

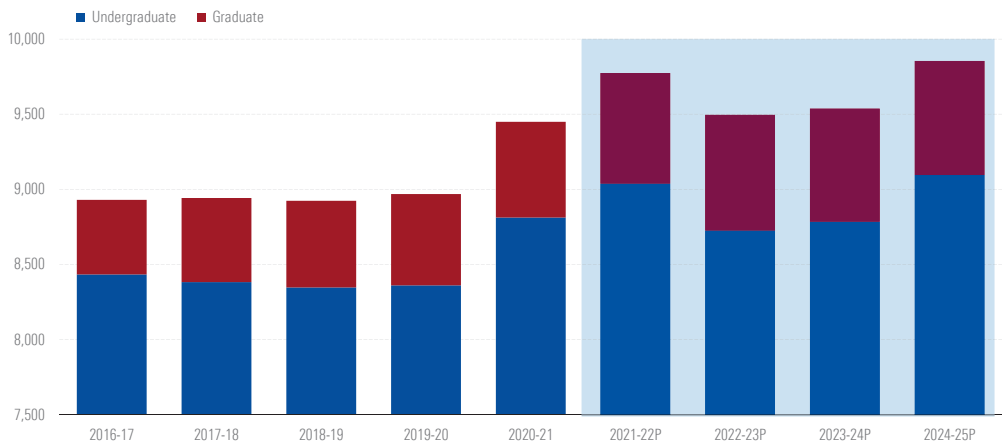
In 2021–22, the University increased tuition fees for international undergraduate students by 10% (new students) and 5% (returning students).

Provincial core operating grant is in line with the Province's funding formula under the Strategic Mandate Agreement with Ontario Tech. The University also received modest additional one-time grants to support virtual learning, student awards, coronavirus supports (deferred from the prior year), and facilities renewal.

The University anticipates expenses will be moderately higher (+2.4% relative to budget). Increased spending on salaries and benefits is driven by negotiated salary increases and limited new (largely part-time) hiring. Supplies and expenses will also increase as campus facilities gradually re-open.

A material portion of the University's ancillary operations (such as, bookstores, food services, and housing) is outsourced to external vendors or is managed by Durham College of Applied Arts and Technology (DC). As ancillary revenue is set to gradually increase as on-campus activity resumes, any adverse impact on consolidated results in the interim should be limited.

Exhibit 1 Enrolment (FTEs)



Operating Outlook

The University's strategy, as outlined in the 2021–23 Integrated Academic-Research Plan, identifies four areas of focus: creating a sticky campus, learning reimagined, tech with a conscience, and partnerships. To this end, Ontario Tech will provide increased supports to all stakeholders (students, staff, industry partners, etc.) to create a cohesive education framework that is focused on research and innovation, adaptability to an evolving operating environment, equity and inclusion in learning, teaching and research, and an ongoing emphasis on technological/digital integration.

Ontario Tech's academic profile has improved over the past decade but remains relatively weak compared with larger and more established universities in Ontario. The University has limited visibility outside the GTA. The University rebranded itself Ontario Tech University in 2019 and started to make changes to the campus to improve its attractiveness as a destination for students. Although some of the initiatives will be delayed because of the pandemic, the University will continue to explore addition of new facilities, more student- and community-oriented spaces, and improved food services.

For the 2022–23 fiscal year, Ontario Tech anticipates a balanced budget supported by slightly higher tuition revenue and limited growth in spending. Total enrolment will remain pressured owing to fierce competition for domestic students and limited opportunities for in-person student recruitment. Nevertheless, the University continues to explore innovative avenues for student outreach and nontraditional learning. In addition, tuition revenue will be constrained by the ongoing freeze on domestic tuition fees.

Over a longer term, the University expects the proportion of international students (as a share of total enrolment) will increase to around 15% to 20%. The targeted level is comparable with many other DBRS Morningstar-rated universities but well below the highs seen at some universities and colleges. At the same time, Ontario Tech anticipates the outlook for domestic enrolment should also begin to improve

with favourable demographic projections for the greater Toronto region and as the University's strategic enrolment initiatives progress.

2020–21 Results

Ontario Tech reported a surplus of $15.1 million in 2020-21, following a small deficit of $2.6 million in 2019–20. Despite pandemic-led operating pressures, Ontario Tech generated positive consolidated results in 2020–21 mainly driven by strict spending control, revenue growth from enrolment, additional government grant funding, and unrealized gains on investment.

Total adjusted revenue increased (+1.5%) mainly driven by a healthy growth in enrolment (+5.4%) and new pandemic-related operating government supports ($2.5 million). Tuition revenue increased by 3.1% supported by higher overall enrolment and tuition fee growth for international students. International students represented more than 9% of total headcount as at year-end F2021.

Although there was no additional grant for domestic enrolment growth, the Province provided new funding supports to the University through the pandemic (e-campus grant, coronavirus support, etc.). In addition, revenue benefited from higher research grants (+12.4%), unrestricted donations (+50.6%), and other revenue (+9.8%). These increases offset declines in other student fees (-18.8%), ancillary operations (-92.9%), and interest income (-28.6%). The pandemic prompted universities to move the majority of their operations online, which resulted in lower ancillary revenue for most Ontario universities that DBRS Morningstar rates.

Total expense declined (-6.8%) as the University implemented broad-based in-year spending reductions. Spending on salaries and benefits declined (-1.0%) because of some hiring and other program deferrals; savings in supplies and expenses (-24.3%) and purchased services (-16.8%) were largely due to reduced on-premise activities because of the pandemic-led closures and a decrease in discretionary activities (travel, conferences, etc.). Expenses decreased modestly across other categories.

As at March 31, 2021, net assets were $102.8 million (+21.2% YOY) mainly as the University invested in capital assets. While still weaker than many Ontario universities, the University's net asset position has improved considerably over the last decade through its efforts to strengthen the balance sheet.

Capital

Capital investment was $29.8 million in F2021, compared with $28.5 million in the prior year. The University's major projects (the Automotive Centre of Excellence (ACE) Enhancement Project, and a new academic and student building (Shawenjigewening Hall)) are complete or nearing completion, despite temporary delays and some cost overruns in the ACE project.

Ontario Tech does not contemplate any major capital projects over the medium term, but will continue to expand its presence in downtown Oshawa as it moves from leased space to University-owned properties; reimagines use of space to accommodate anticipated enrolment growth in future years; and a broader proportion of programming that is delivered virtually. At an estimated project cost of

approximately $35 million (including a parking facility), Ontario Tech will seek to consolidate leased spaces in downtown to develop a dedicated educational hub.

Including deferred maintenance, the University anticipates investments of up to $2 million annually toward refurbishing/renovation/upgrade of existing infrastructure. As the University grows, there are options to extend several of the existing facilities. For instance, the new Shawenjigewining Hall can be expanded to add 12,000 square feet of space for an additional cost of $4 million.

In 2020, Ontario Tech depleted much of its capital reserve as it completed certain large projects during the year (Software and Informatics Research Centre and Shawenjigewining Hall). This reserve declined from around $15 million (2019) to less than $4 million in 2020. The University indicated to the board that financial sustainability and rebuilding of reserves remain a key priority for the leadership team.

Ontario Tech's deferred maintenance (DM) needs are limited because most buildings were built in the 2000s. The University estimated (in November 2021) that more than 60% of the building infrastructure is in great condition. Although still small, deferred maintenance needs are likely to grow over time as existing infrastructure ages, with the University anticipating roughly $20 million deferred maintenance by 2040.

As at fiscal year-end 2021, the University estimated DM of $2.8 million and an overall facilities condition index of 0.009, which is considered very manageable. Ontario Tech intends to allocate around $2.0 million for DM spending—funded by the Province's Facility Renewal Program. Taken together with $85 million planned new construction over the next two decades, the University will look to set aside nearly $2.5 million annually in the form of DM reserves.

Debt and Liquidity

Ontario Tech's total adjusted debt was $188.0 million as at fiscal year-end 2021, down from $195.5 million for the prior fiscal year. On a per-student basis, this equates to roughly $19,900 per FTE and is the highest among DBRS Morningstar-rated universities. The University's debt comprises $151.5 million in amortizing Debentures, $36.2 million in capital leases, and $0.3 million in other long-term debt. Ontario Tech's debt continues to amortize by roughly $7.0 million annually.

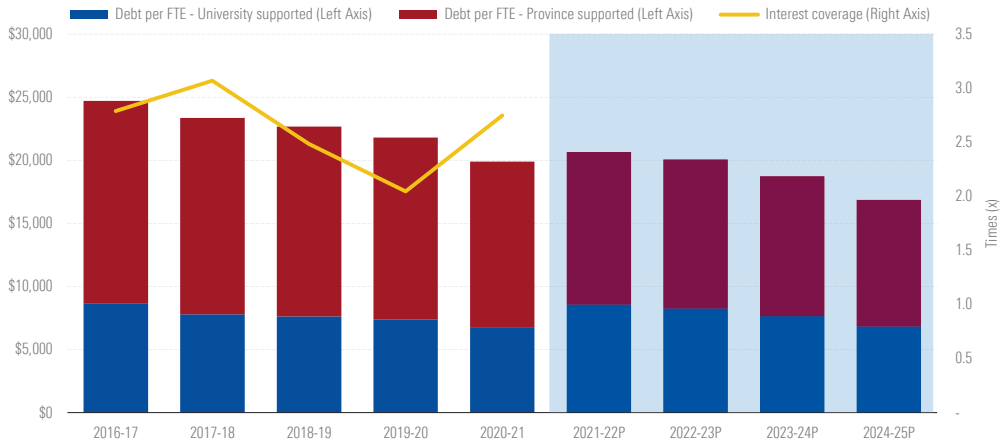
Ontario Tech's debt burden is significant and unusual in the Ontario context, reflecting a policy decision made by the Province when the University was established in the early 2000s. The Province provides Ontario Tech with a flat $13.5 million annual restricted grant aimed at ensuring the University's financial sustainability and mitigating the risk of default. The grant covers more than 80% of the annual $16.5 million requirement for principal and interest. While the legal obligation rests with the University and the grants flow through Ontario Tech, the Province is effectively servicing over 80% of the Debentures.

DBRS Morningstar continues to view Ontario Tech's debt burden as elevated among Ontario universities but acknowledges the unique circumstances surrounding the debt. Excluding the portion of the debt effectively serviced by the Province would yield a debt burden of $64.0 million or $6,700 per FTE (tending

toward the lower end among DBRS Morningstar-rated Ontario universities). The Province has provided Ontario Tech with assurances that the restricted grant will continue until the Debentures are fully repaid in 2034, although the payments are subject to conditions and require annual legislative approval. Nevertheless, DBRS Morningstar is confident that the Province will continue to provide the grants until the debt is retired because of the importance of postsecondary education to the provincial government, the political consequences resulting from the failure of a publicly funded and regionally important university, and the grant's relatively small size in the broader provincial budget. A material reduction in the grant would challenge the University's finances and put downward pressure on the credit profile.

Debt-servicing costs continue to decline as certain existing debt amortizes, with total interest costs representing about 6.5% of total expense. Interest coverage improved to 2.7x, compared with 2.0x in the prior year.

Exhibit 2 Debt per FTE and Interest Coverage



Sources: Ontario Tech and DBRS Morningstar. P = projection.

The University's balance sheet has improved significantly over the last 10 years, supported by ongoing effort to improve operating results and financial management practices. Ontario Tech's net assets have risen because of increase in capital assets and modest accumulation of reserves. Debt has declined steadily over much of the past decade. Nevertheless, and consistent with the rating, the University's balance sheet exhibits less flexibility than many other DBRS Morningstar-rated universities.

Expendable resources comprise a subset of net assets, including unrestricted net assets, most internally restricted net assets, and internally restricted endowments. DBRS Morningstar assesses Ontario Tech's expendable resources to be $21.4 million, or a modest 11.4% of total debt outstanding at March 31, 2021. The construction of the new Shawejigewening Hall resulted in the University drawing down on its reserves during 2020-21 fiscal year, offset by unexpected government funding supports. Over the medium to long term, DBRS Morningstar expects the University's expendable resources to be supported by positive operating results and as the University sets aside capital reserves for future projects.

The University maintains a $17.0 million operating bank line with a major Canadian bank that was undrawn as of March 31, 2021. In 2021, Ontario Tech also added a $25.0 million construction nonrevolving credit facility (bankers' acceptance loan) with a Canadian chartered bank; none drawn as of this report.

Unlike most DBRS Morningstar-rated universities, Ontario Tech does not have a defined benefit pension plan, which alleviates longer-term funding risks. The University does not report any long-term obligations associated with employee future benefits.

Outlook

Following the addition of $25.0 million new long-term debt related to the construction of the Shawenjigewening Hall and based on Ontario Tech's enrolment forecast in the current year (November 24, 2021), DBRS Morningstar believes that debt per FTE ratio will remain elevated over the near to medium term. DBRS Morningstar estimates that debt will be more than $20,000 per FTE over the next two years, before gradually declining thereafter as existing debt amortizes.

Durham College Guarantee

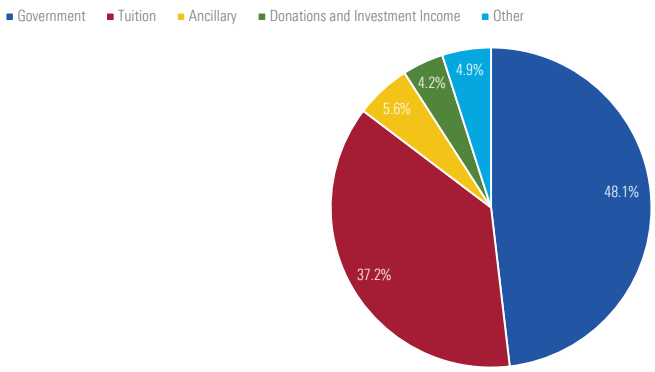
DC unconditionally and irrevocably guarantees the punctual performance of all obligations related to the Debentures, plus all accrued interest starting on the date that payment is demanded. The language of the guarantee is comprehensive and consistent with DBRS Morningstar criteria requirements. The DC guarantee was important at the time of DBRS Morningstar's initial rating of Ontario Tech in 2004; however, since that time, the guarantee's importance has diminished as the University gained scale.

University Funding in Ontario

Canadian universities in the Province generally have three key sources of revenue for their core teaching and research activities: (1) government grants, (2) student fees, and (3) donations and investment income. For Ontario Tech, these accounted for more than 89% of total revenue in 2020–21, which is comparable with other DBRS Morningstar-rated universities.

Provincial government funding remains one of the primary sources of revenue for universities across the country, although its relative importance remains under pressure in most provinces because of strained finances and competing priorities. Over time, this has led to a gradual shift in the relative shares of revenue provided by operating grants, which have declined, and tuition fees, which have increased.

Exhibit 3 Revenue Breakdown (2020–21)



Sources: Ontario Tech and DBRS Morningstar.

Government Funding (Provincial and Federal; 48.1%)

Government funding includes operating grants, research grants, and contracts as well as capital grants. Operating grants are the most important and stable revenue source.

The Province and universities have signed new SMAs that establish performance-based funding targets for the 2020–21 to 2024–25 fiscal years. This is a change from the previous enrolment-oriented funding model. SMA3 will include a set of 10 performance metrics, with funding consequences if the University does not meet the negotiated performance targets. However, the Province has decoupled funding from performance targets (i.e., stable funding) for two years until 2022–23.

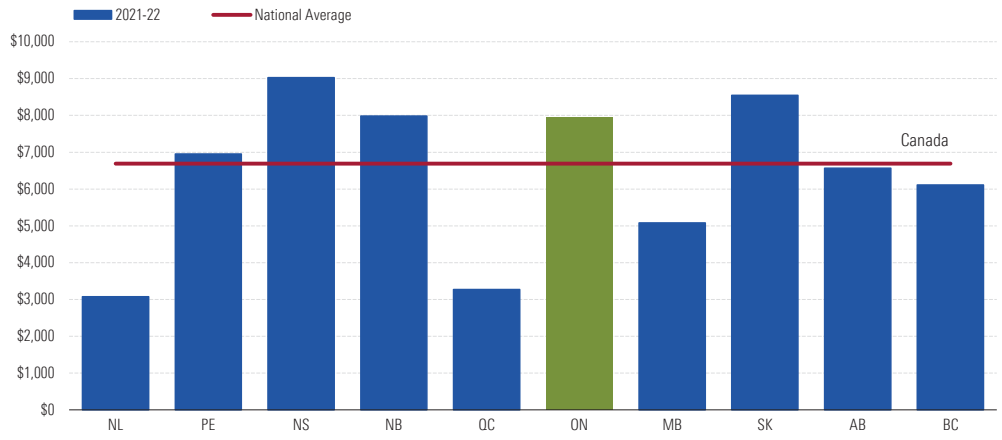
Research and capital grants are another important source of funding. The federal government typically provides 65% to 75% of all public research funding, whereas the Province provides the bulk of capital funding. Since the announcement of the global coronavirus pandemic in March 2020, the federal and provincial governments have provided additional funding for financial assistance to students and universities to offset some pandemic-related costs.

Tuition (37.2%)

On January 17, 2019, the Province announced a revised tuition fee framework for regulated domestic programs at Ontario universities and colleges. The framework required Ontario universities to reduce tuition fees for domestic funding (eligible programs by 10% in 2019–20). Tuition fees for eligible programs will be maintained at that level for the 2020–21 and 2021–22 academic years.

International student fees are not regulated by the Province and are generally set to recover the full costs of international student enrolment.

Exhibit 4 Average Provincial Undergraduate Tuition Fees ($)



Source: Statistics Canada.

Donations and Investment Income (4.2%)

Unrestricted donations and investment income, recognized on the statement of operations, represent a modest portion of the University's total revenue. Endowed contributions and investment income earned by the externally restricted endowments are recognized as changes in net assets and are not captured on the statement of operations until they are spent, at which point they are recorded as revenue.

As a relatively new university with a small alumni base, fundraising efforts have been modest. Ontario Tech focuses on the local community and companies in the region that have a stake in the University. The University has an eight-year, $50 million fundraising campaign underway. To date, the University has raised $29.7 million in pledges and donations.

Ontario Tech's endowment has risen steadily over the years and amounted to $24.4 million, or $2,577 per FTE as of March 31, 2021. This is relatively low in comparison with other DBRS Morningstar-rated universities.

Statement of Operations (Adjusted)

($ Thousands)	For the year ended March 31				
	2021	**2020**	**2019**	**2018**	**2017**
Revenues					
Student tuition fees	79,533	77,110	80,152	78,266	74,818
Other student fees	11,742	14,455	12,546	13,466	13,774
Government operating grants	67,221	64,046	63,768	61,786	60,150
Research grants	12,638	11,246	10,444	10,467	9,640
Debenture grant	13,500	13,500	13,500	13,500	13,500
Unrestricted donations	2,809	1,865	1,573	1,934	1,090
Interest income	1,132	1,586	1,520	1,166	865
Amortization of deferred capital contributions	9,612	9,559	9,238	9,036	8,796
Ancillary operations	231	3,265	3,734	3,600	3,993
Other revenue	15,481	14,093	15,136	19,107	15,791
Total Revenues	**213,899**	**210,726**	**211,610**	**212,328**	**202,417**
Expenses					
Salaries and benefits	113,243	114,363	106,246	97,530	96,519
Student aid, financial assistance and awards	12,720	12,839	12,479	11,478	-
Supplies and expenses	23,281	30,760	31,081	31,608	36,581
Amortization of capital assets	23,090	23,752	23,676	23,730	24,859
Interest expense	12,930	13,443	13,862	14,317	14,823
Other expenses	13,491	18,125	17,398	18,268	17,031
Total Expenses	**198,755**	**213,283**	**204,743**	**196,931**	**189,813**
Operating Surplus (Deficit), as Reported	**15,144**	**(2,557)**	**6,867**	**15,396**	**12,604**
Capital Expenditures	**29,800**	**28,535**	**16,351**	**25,139**	**28,176**

Statement of Financial Position (Adjusted)

($ Thousands)	As at March 31				
Assets	**2021**	**2020**	**2019**	**2018**	**2017**
Cash and short-term investments	53,127	49,392	62,161	52,195	56,796
Receivables	18,002	17,727	15,901	15,705	13,777
Inventories and prepaid expenses	2,182	2,328	2,300	1,861	1,862
Long-term investments	31,947	26,137	26,809	25,682	29,633
Capital assets	405,979	396,613	392,097	399,588	399,940
Other assets	1,810	-	-	-	-
Total Assets	**513,047**	**492,197**	**499,268**	**495,030**	**502,007**
Liabilities and Net Assets					
Liabilities					
Payables and accrued liabilities	32,995	27,506	29,614	25,821	34,634
Deferred revenue	28,244	22,206	20,300	19,580	20,879
Long-term debt	151,845	158,532	164,820	170,744	181,891
Capital lease obligations	36,174	36,954	37,596	38,167	38,673
Deferred capital contributions	161,008	162,196	161,099	162,549	164,582
Total Liabilities	**410,266**	**407,395**	**413,430**	**416,861**	**440,658**
Net Assets					
Unrestricted net assets	1,230	4,504	3,264	(1,296)	(10,744)
Internally restricted net assets	20,127	17,589	31,786	29,811	31,574
Equity in capital assets	57,074	39,174	28,946	28,613	20,902
Endowment – externally restricted	24,350	23,536	21,843	21,040	19,617
Total net assets	102,781	84,803	85,839	78,169	61,349
Total Liabilities and Net Assets	**513,047**	**492,197**	**499,268**	**495,030**	**502,007**
Contingencies and Commitments					
Operating lease obligations	8,473	10,197	11,915	13,634	14,733

Calculation of Free Cash Flow (Adjusted)

($ Thousands)	For the year ended March 31				
	2021	**2020**	**2019**	**2018**	**2017**
Operating balance as reported	15,144	(2,557)	6,867	15,396	12,604
Amortization	23,090	23,752	23,676	23,730	24,859
Other noncash adjustments	(15,637)	(7,125)	(9,981)	(9,502)	(10,932)
Cash Flow from Operations	**22,597**	**14,070**	**20,563**	**29,624**	**26,531**
Change in working capital	11,398	(2,055)	3,878	(12,039)	10,071
Operating Cash Flow After Working Capital	**33,995**	**12,015**	**24,441**	**17,586**	**36,601**
Net capital expenditures [1]	(22,336)	(17,879)	(8,562)	(18,136)	(17,083)
Free Cash Flow	**11,660**	**(5,864)**	**15,879**	**(550)**	**19,518**

1 Gross capital expenditures less restricted/deferred contributions for capital purposes received during the year.

Summary Statistics (Adjusted)

	For the year ended March 31				
	2021	**2020**	**2019**	**2018**	**2017**
Total Students (FTEs)	**9,449**	**8,969**	**8,924**	**8,942**	**8,929**
Undergraduate (%)	93	93	94	94	94
Graduate (%)	7	7	6	6	6
Annual change (%)	5.4	0.5	-0.2	0.1	3.2
Enrolment (Headcount)	**10,674**	**10,390**	**10,348**	**10,273**	**10,154**
Domestic (%)	93	93	94	94	93
International (%)	7	7	6	6	7
Operating Results					
Surplus (deficit; $ thousands)	15.1	-2.6	6.9	15.4	12.6
- As % of revenue	7.1	(1.2)	3.2	7.3	6.2
- As % of revenue (five-year rolling average)	4.5	3.4	4.5	5.0	5.2
Revenue Mix					
Government funding (federal and provincial; %)	48.1	46.7	45.8	44.6	45.5
Student fees (%)	37.2	36.6	37.9	36.9	37.0
Ancillary (%)	5.6	8.4	7.7	8.0	8.8
Donations and investment income (%)	4.2	1.6	1.7	1.6	1.8
Other (%)	4.9	6.7	6.9	8.9	7.0
Debt and Liquidity					
Total long-term debt ($ millions)	188.0	195.5	202.4	208.9	220.6
- Per FTE student ($)	19,898	21,796	22,682	23,363	24,702
Interest costs as share of total expense (%)	6.5	6.3	6.8	7.3	7.8
Interest coverage ratio (times)	2.7	2.0	2.5	3.1	2.8
Expendable resources ($ millions)	21.4	22.1	35.0	28.5	20.8
As a share of long-term debt (%)	11.4	11.3	17.3	13.6	9.4
Endowments (Market Value)					
Total market value ($ millions)	24.4	23.5	21.8	21.0	19.6
Per FTE student ($)	2,577	2,624	2,448	2,353	2,197
Annual change (%)	3.5	7.7	3.8	7.3	8.0

Rating History

Issuer	Debt	Current	2020	2019	2018	2017	2016
University of Ontario Institute of Technology	Issuer Rating	A (low)	A (low)	A (low)	A (low)	A (low)	BBB (high)
University of Ontario Institute of Technology	Series A Senior Unsecured Debentures	A (low)	A (low)	A (low)	A (low)	A (low)	BBB (high)

Related Research

- *Rating Public Universities*, May 5, 2021.
- *Ontario Provides Relief Funding for Severely Affected Universities*, March 22, 2021.

Previous Report

- University of Ontario Institute of Technology: Rating Report, January 15, 2021.

Notes:
All figures are in Canadian dollars unless otherwise noted.

For the definition of Issuer Rating, please refer to Rating Definitions under Rating Policy on www.dbrsmorningstar.com. Generally, Issuer Ratings apply to all senior unsecured obligations of an applicable issuer, except when an issuer has a significant or unique level of secured debt.

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BOARD REPORT

SESSION:		**ACTION REQUESTED:**	
Public	☒	**Decision**	☐
Non-Public	☐	**Discussion/Direction**	☐
		Information	☒

TO: **Board of Governors**

DATE: **March 1, 2022**

FROM: **Brad MacIsaac, VP Administration**

SUBJECT: **MCU Audit Update**

COMMITTEE MANDATE:
The Audit and Finance Committee is responsible for overseeing the financial affairs of the university with respect to all auditing, financial reporting and internal systems and control functions, risk management, and other internal and external audit functions at the university.

The purpose of this report is to provide the Board with an update on the MCU audit that was completed in 2021.

BACKGROUND/CONTEXT & RATIONALE:
Given the complexities surrounding university financial management, an audit of financial governance and oversight at universities was approved in the 2021/22 Ontario Public Sector Wide Audit Plan. The Ministry of Colleges and Universities normally chooses one university annually and this year Ontario Tech was selected.

The objective of this audit was to assess the effectiveness of the governance and controls in place at Ontario Tech for the oversight, monitoring and reporting on the institution's financial information, as well as its controls over processes for financial management and compliance with the Broader Public Sector Accountability Act (BPSAA). The scope was the two-year period from April 2019 to March 2021.

The Ontario Internal Audit Division (OIAD) will present a summary of their findings (appendix A). Overall, the audit team found that Ontario Tech has processes and mechanisms in place relating to financial procedures, reporting and BPSAA compliance, and that the Board received appropriate information to oversee, monitor and provide strategic advice on the institution's financial position. However, opportunities exist to strengthen management and oversight of the institution's financial management practices and reporting to the Board. More specifically,

recommendations were made specifically to reestablishing Key Performance Indicators (KPIs) and Key Risk Indicators (KRIs) tracking and providing the Board with IT governance updates.

On October 27, 2021 the audit team went to the first of three committees (Appendix B and subsequently notified the university that findings were not significant enough to warrant escalation*.*

Next Steps:

- Annual governance checklists to be developed for GNHR and A&F Committees in order to track progress being made against OAID recommendations.

Appendix A: Summary of Findings

A general summary of the findings can be found below. The risks are noted on a four-point scale (low, medium, medium-high, high – as found in Appendix C). Ontario Tech did not receive any above medium risk which notes some improvements can be made.

1. Detailed financial information reporting to the Board and/or Board sub-committees

Medium

Recommendation #1

The Vice President, Administration and University Secretary in conjunction with the Board Chair and relevant sub-committee Chairs should consider opportunities to add additional components to Board reporting materials to facilitate oversight and decision-making capabilities.

Plan to address the issue/recommendation:

1) When setting the budget, a section will be added to forecast the financial health indicators at the end of the fiscal year if all other budget assumptions are met.
2) The university will create a section in the quarterly reports to highlight in year projects. Will include statements to connect percentage of project completion versus funds used.
3) To address the concern that this work is not sufficiently explicit, management will add a summary of the work done by A&F and the Board in the previous year to understand and ensure appropriate mitigation of the high risks.

Recommendation #2

The Vice President, Administration in conjunction with the Board Chair and relevant sub-committee Chairs should review the timelines for budget approval and/or implement compensating controls to ensure that unapproved expenditures are not being incurred.

Plan to address the issue/recommendation:

Management has committed to implement controls to ensure unapproved expenditures are not being incurred.

2. Board reporting of Financial Key Performance Indicators and/or Key Risk Indicators

Medium

Recommendation #3

The Associate Vice-President, Planning in conjunction with the Board Chair and relevant sub-committee Chairs should continue to work towards the establishment of financial KPIs including report-back on SMA metrics. Establishment of KRIs, leveraging benchmarks established by COU should also be considered.

Plan to address the issue/recommendation:

As part of evolving the institution's Integrated Planning Framework, a comprehensive set of KPIs is being developed that will be reported on an annual basis (by June Annual General Meeting). The KPIs and narrative will summarize key outcomes related to institutional progress towards plan (achieving goals outlined in our Integrated Academic-Research Plan) which include Financial health indicators as well as a comprehensive SMA3 metric and target performance report.

3. Defined rankings for Board skills monitoring framework

Low

Recommendation #4

The University Secretary & General Counsel should develop guidelines or definitions for each skill ranking level to support consistency in skill assessments completed by Board members.

Plan to address the issue/recommendation:

Guidelines for each skill ranking level will be implemented for the start of the next board year.

4. IT governance structure review and linkage to the Board

Medium

Recommendation #5

The Vice President, Administration in conjunction with the Board Chair and relevant sub-committee Chairs should define linkages between the IT Governance Committees and the Board to include regular reporting on IT governance and risk matters.

Plan to address the issue/recommendation

Will review IT governance structures to establish a clear linkage to the board linking the IT strategy to items such as new projects, cyber-security and risks.

Recommendation #6

A formal process to review, update and finalize the Shared Services Agreement and related Work Description Documents should be established by the Vice President, Administration in conjunction with Durham College to ensure that the Agreement reflects current business requirements, and IT services and arrangements. Further the Work Description Documents should also include the reporting requirements of that service.

Plan to address the issue/recommendation:

Will work with Durham College to update and finalize the IT Work Description Documents

5. Formalization of Cash Management Policy

Medium

Recommendation #7

The Executive Director, Financial Planning & Reporting should consider formalizing cash management practices to optimize the management of temporarily idle cash in the short-term.

Plan to address the issue/recommendation:

Management will formalize our cash management practices. Historically, all surplus operating cash over and above $20.0M has been invested in short-term investment certificates (GIC's) unless there is known cash requirement for approved projects.

6. Management of corporate credit cards

Medium

Recommendation #8

The Director, Financial Operations should ensure that there is a process in place to issue corporate cards only to individual employees and deactivate/suspend cards when employees (including seasonal employees) leave the organization.

Plan to address the issue/recommendation:

Management has committed to the following action plans:

1) Transitioning department cards to individuals.
2) Ensuring cards for contract employees are inactivated when contract ends.

7. Travel Meal Hospitality Expense (TMHE) claim processes and practices

Medium

Recommendation #9

The Director, Financial Operations should update expense claim processes and practices so that claims are not processed unless all requirements of the Expense Policy have been met.

Plan to address the issue/recommendation:

Management has committed to the following action plans:

1) Will revise our expense policy to add clarity to process.
2) Will develop an online training session to educate all users.
3) Will review a new sampling process in finance to ensure greater assessment of expenses submissions.

Recommendation #10

The Director, Financial Operations should update the guidelines for the Visiting Scholar program to clarify allowable expenses and to ensure that compliance with the BPSAA is maintained.

Plan to address the issue/recommendation:

Management has updated the Visiting Scholar program in January 2021 to allow for other cost of living expenses (other than rent and meals). We will add clarity by inserting some examples of eligible and ineligible expenses.

8. Alignment of Procurement and Expense policies and procedures with the Broader Public Sector Accountability Act (BPSAA)

Low

Recommendation #11

The Director, Financial Operations should update the procurement and TMHE policies and procedures to include all elements of the BPSAA Directives, as well as reference the procurement interim measures.

Plan to address the issue/recommendation:

Management has committed to updating our purchasing and expense policy/procedures. We will look to address these recommendations in our revised documents.

9. Alignment of Invoice Signing Authority Policy with current practices

Low

Recommendation #12

The Director, Financial Operations should revisit the invoice signing authority requirements and ensure practices align with the Signing Authority Policy.

Plan to address the issue/recommendation:

Management has committed to reviewing the signing authority policy which was updated in June 2021 to ensure that our practices are properly documented. We will update the policy/procedures where necessary.

Appendix B Committee Structure

Education Sector Audit Committee (SAC)	Ontario Internal Audit Committee (OIAC)	Audit and Accountability Committee (AAC)
• Portfolio-based audit committee • Provides independent advice/recommendations through the OIAC Chair to the President of the Treasury Board • Supports Deputy Ministers and senior executives in the management and stewardship of public resources through audit committee operations/outcomes • Monitors progress on the implementation of internal audit recommendations • Includes both external members and internal members (Deputy Ministers)	• An independent OPS-wide audit committee • Provides advice/recommendations to the AAC • Advises on the adequacy of the Government's governance, accountability, risk management and internal control practices • Discusses audit outcomes/recommendations and management action plans • Monitors progress on the implementation of internal audit recommendations • Includes both external members and internal members (select Deputy Ministers)	• Provides input and direction to ensure the identification and delivery of internal audit services that address critical areas of government priority and risk • Provides direction to the OIAC • Discusses audit outcomes/recommendations and management action plans • Monitors progress on the implementation of internal audit recommendations • Sub-committee of Treasury Board with all members being Ministers

Appendix C: Risk Ranking if one or more of the criteria are met under each column

1 **Low Risk** (Satisfactory Controls)	2 **Medium Risk** (Control Need Some Improvements)	3 **Medium-High Risk** (Control Need Significant Improvements)	4 **High Risk** (Controls Not Satisfactory)
• Risk(s) are mostly being addressed by internal control systems • Risk(s) associated with potential control failures exist but are not material or significant to the objectives • Internal controls (design & operating effectiveness) are well managed and measured for effectiveness • Additional evaluation criteria (if required)	• Risk(s) are not consistently being addressed by internal control systems and require improvements/ enhancements • Risk(s) associated with potential control failures exist and can be material or significant to the objectives • Internal controls (design & operating effectiveness) processes are consistently implemented but not measured for effectiveness • Additional evaluation criteria (if required)	• Risk(s) are not adequately being addressed by internal control systems and require significant improvements/ enhancements • Risk(s) associated with potential control failures are material or significant to the objectives • Internal controls (design & operating effectiveness) are not consistently implemented • Additional evaluation criteria (if required)	• Due to the absence of effective risk management practices, management is unable to identify, monitor or control significant risk/exposure • Risk(s) associated with potential control failures are highly material or highly significant to the objectives • Internal controls (design & operating effectiveness) are not formalized and are performed in an ad-hoc and reactive manner • Additional evaluation criteria (if required)

Ontario Tech University – Audit & Finance Committee – February 23, 2022
Audit of Higher Education Institution's Financial Governance and Oversight: Ontario Tech University
Overall Risk Rating: Medium

Background

Ontario's Universities and Colleges are governed by the Board of Governors (Board) for each institution. The Ministry of Colleges and Universities (MCU) provides operating and capital funding to publicly assisted postsecondary educational institutions. It is the responsibility of the Board and senior administrators of each University to identify, track and address financial pressures and sustainability issues. The Ministry has a financial stewardship role.

Ontario Tech University (Ontario Tech), one of Ontario's 22 universities, was granted university status in 2002 and has approximately 9,900 undergraduate students and 815 graduate students. The University expanded the campus with the assistance of a $60M capital grant from the province and a $220M debenture guaranteed by Durham College in 2005; the debenture will be paid off by 2035. In 2019-20, MCU allocated $73.9M in operating grants to Ontario Tech. To assist with debenture repayments, MCU provides a special grant of $13.5M annually while Ontario Tech is required to contribute $3M.

Given the complexities surrounding University financial management, an audit of financial governance and oversight at Ontario Tech was approved in the 2021/22 Ontario Public Service (OPS) Wide Audit Plan. The objective of this audit was to assess the effectiveness of the governance and controls in place at Ontario Tech to oversee, monitor and report on the institution's financial information, as well as its controls over processes for financial management and compliance with the Broader Public Sector

Audit Conclusion

Overall, OIAD found that Ontario Tech has processes and mechanisms in place relating to financial procedures, reporting and BPSAA compliance, and that the Board received appropriate information to oversee, monitor and provide strategic advice on the institution's financial position. However, opportunities exist to strengthen management and oversight of the institution's financial management practices and reporting to the Board, specifically as they relate to providing additional information to the Board, re-establishing and tracking Key Performance Indicators (KPIs) and Key Risk Indicators (KRIs), and providing the Board with IT governance updates.

We would like to recognize the indicators of good controls identified throughout the audit engagement. The Board appears to be well-informed of the institution's financial position and related action plans, the institution has a successful partnership with Durham College to support IT governance and procurement, procurement practices include strategies to achieve value-for-money by leveraging bulk buying opportunities, and the University has robust policies, practices and procedures in place to support financial management and reporting and ensure the integrity of the information being utilized.

Ontario Tech University – Audit & Finance Committee – February 23, 2022
Audit of Higher Education Institution's Financial Governance and Oversight: Ontario Tech University
Overall Risk Rating: Medium

Key Issues and Recommendations

The following exceptions were identified as medium risk.

- Information reported to the Board requires additional details to support informed decision-making
- Key Performance Indicators (KPIs) and/or Key Risk Indicators (KRIs) are not monitored or reported to the Board
- The IT governance structure did not include linkages to the Board and requires more regular review
- A cash management policy was not formalized
- Corporate credit cards were not managed consistently for employees exiting the organization
- Inconsistencies in Travel, Meal and Hospitality Expense (TMHE) claim processes and practices were identified

Note: No high-risk exceptions were identified during this engagement.

Management Response/Action Plans/Summary

Management acknowledged OIAD's considerations and has committed to the following action plans:

- Improve reporting to the Board by including financial components such as financial health indicators during budget setting, clarifying risk descriptions and mitigation strategics for strategic risks in the annual summary report, and re-establishing KPIs and KRIs.
- Review IT governances structures to establish clear linkage to the Board and update/finalize supporting components of the Shared Services Agreement with Durham College.
- Enhance financial management processes by formalizing cash management practices and updating policies/procedures for procurement and employee expenses to ensure compliance with the BPSAA.

Ontario Tech University – Audit & Finance Committee – February 23, 2022
Audit of Higher Education Institution's Financial Governance and Oversight: Ontario Tech University
Overall Risk Rating: Medium

Ontario

Summary of Audit Findings:

There were a total of 12 audit recommendations

- 9 recommendations were medium risk
- 3 recommendations were low risk

Identified below is a summary of key audit findings for Audit Committee/Deputy Minister awareness.

Scope Area	Detailed Issues / Observations	Risk Ranking Category	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
Financial and IT Governance	**1. Detailed Financial Information Reporting to the Board and/or Board Sub-committees** The following elements were not included in the financial information reported to the Board: financial health assessment ratios at the time of budgeting, analysis of project completion against percent of funds used for capital projects currently underway, and detailed information about key risks and mitigation plans. Further, the budget was approved a few weeks after the start of the fiscal year.	**Medium**	**R1.** Consider opportunities to add additional components to Board reporting materials to facilitate oversight and decision-making capabilities.	The University will forecast financial health indicators in the budget, highlight in-year projects quarterly (incl. percent of project completion vs. funds used), and provide a summary of work done by the Board to understand and ensure appropriate mitigation of high and foundational risks. **Implementation Owner:** VP Administration and University Secretary & General Counsel	**Targeted Implementation Date:** June 2022
			R2. Review the timelines for budget approval and/or implement compensating controls to ensure that unapproved expenditures are not being incurred.	The University will implement controls to ensure unapproved expenditures are not being incurred. **Implementation Owner:** VP Administration	**Targeted Implementation Date:** March 2022

Ontario Tech University – Audit & Finance Committee – February 23, 2022
Audit of Higher Education Institution's Financial Governance and Oversight: Ontario Tech University
Overall Risk Rating: Medium

Scope Area	Detailed Issues / Observations	Risk Ranking Category	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
Financial and IT Governance	**2. Board Reporting of Financial KPIs and/or KRIs** Except for the financial ratios identified by the Council of Ontario Universities (COU), KPIs were being re-established and were therefore not being tracked/communicated to the Board. KRIs have not been established by the University.	**Medium**	**R3.** Continue to work towards the establishment of financial KPIs and consider the establishment of KRIs, leveraging benchmarks established by COU. Once established, track these indicators and develop a process to update the board on progress of strategic goals.	A comprehensive set of KPIs and KRIs are being developed for reporting on an annual basis. The KPIs will include financial health indicators, Strategic Mandate Agreement (SMA3) metric report and integration with the institutional risk register. **Implementation Owner:** AVP Planning	**Targeted Implementation Date:** June 2022
	4. IT Governance Structure Review and Linkage to the Board The IT governance structure did not define linkages to the Board; therefore, reports on IT governance matters such as IT projects, cybersecurity and risk management were not provided to the Board regularly. Further, the Shared Services Agreement (Agreement) included unfinalized and outdated components.	**Medium**	**R5.** Define linkages between the IT Governance Committees and the Board to include regular reporting on IT governance and risk matters.	The University will review IT governance structures to establish a clear linkage to the Board linking IT strategy to items such as new projects, cyber-security and risks. **Implementation Owner:** VP Administration	**Targeted Implementation Date:** April 2022
			R6. A formal process to review, update and finalize the Agreement and related Work Description Documents should be established to ensure that it reflects current business requirements, and IT services and arrangements. Work Description Documents should also include the reporting requirements of that service.	The University will work with Durham College to update and finalize the IT Work Description Documents. **Implementation Owner:** VP Administration	**Targeted Implementation Date:** August 2022

Scope Area	Detailed Issues / Observations	Risk Ranking Category	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
Financial Management	**5. Formalization of Cash Management Policy** A formalized cash management model/policy was not established to govern the institution's short-term cash needs and separate temporarily idle cash from the main operating bank account.	**Medium**	**R7.** Consider formalizing cash management policies to optimize the management of temporarily idle cash in the short-term.	Cash management practices will be formalized. **Implementation Owner:** Executive Director, Financial Planning & Reporting	**Targeted Implementation Date:** April 2022
Procurement and Expenses, including Compliance with the BPSAA	**6. Management of Corporate Credit Cards** Some corporate cards were issued on a departmental basis instead of to individual employees. Select seasonal employees were also cardholders.	**Medium**	**R8.** Ensure that there is a process in place to issue corporate cards only to individual employees and deactivate/suspend cards when employees (incl. seasonal employees) leave the organization.	The University will transition department cards to individuals and ensure cards for contract employees are inactivated when their contract ends. **Implementation Owner:** Director, Financial Operations	**Targeted Implementation Date:** December 2021

Audit of Higher Education Institution's Financial Governance and Oversight: Ontario Tech University
Overall Risk Rating: Medium

Scope Area	Detailed Issues / Observations	Risk Ranking Category	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
Procurement and Expenses, including Compliance with the BPSAA	**7. TMHE Expense Claim Processes and Practices** Not all expense claims were in full compliance with the University's expense policy. Further, opportunities exist to clarify the expense policies and procedures and improve Finance Department review of expense claims. Finally, guidelines for allowable expenses under the Visiting Scholar program were not being adhered to in a consistent manner.	**Medium**	**R9.** Update expense claim processes and practices so that claims are not processed unless all requirements of the Expense Policy have been met.	The expense policy will be revised, online training session will be developed to educate all users and a sampling process will be established to ensure greater assessment of expenses. **Implementation Owner:** Director, Financial Operations	**Targeted Implementation Date:** April 2022
			R10. Update the guidelines for the Visiting Scholar program to clarify allowable expenses and ensure that compliance with the BPSAA is maintained.	The Visiting Scholar program was updated in 2021 to allow for other cost of living expenses. Clarity will be added by inserting some examples of eligible and ineligible expenses. **Implementation Owner:** Director, Financial Operations	**Targeted Implementation Date:** October 2021

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Ministry of Colleges and Universities

Final Report[1]

Audit of Higher Education Institution's Financial Governance and Oversight: Ontario Tech University

October 2021

Education Audit Branch
Ontario Internal Audit Division
Office of the Comptroller General
Treasury Board Secretariat

Serving:

Ministry of Colleges and Universities

Ministry of Education

Ontario Internal Audit Division
Assure. Advise. Add Value.

[1] Finalized subsequent to the December 16, 2021 Audit and Accountability Committee (AAC) meeting

Contents

Executive Summary

Overall Risk Rating

Medium Risk

Background

Ontario's Universities and Colleges are governed by a Board of Governors (Board) for each institution. Each university is established by way of an Act which creates the university and sets out the governance framework. Each university is also responsible for establishing its by-laws based on its requirements. The Ministry of Colleges and Universities (MCU) does not provide any additional policy framework for universities. However, the Ministry does provide operating and capital funding to publicly assisted postsecondary educational institutions.

Operating and capital funding is disbursed to colleges and universities through a variety of grants. It is the responsibility of the governing Board and senior administrators of the University to identify, track, and address financial pressures and sustainability issues. The Ministry does not engage in operational financial matters and only has a financial stewardship role.

Ontario Tech University (Ontario Tech) was granted university status in 2002 and has approximately 9,900 undergraduate students and 815 graduate students, international student enrolment accounted for approximately 8% of enrolment in 2019-20. Ontario Tech is governed by both a Board of Governors and an Academic Council. In 2019-20, MCU allocated $73.9M in operating grants to Ontario Tech.

Ontario Tech Debenture

An expansion of Ontario Tech's campus was funded with the assistance of a $60M capital grant from the province and a $220M debenture guaranteed by Durham College. The debenture was issued in 2005 and annual payments are $16.5M, which is comprised of both capital and interest. In 2011, MCU signed a transfer payment agreement with Ontario Tech to assist with the debenture repayment. The Ministry committed $13.5M/year through a debenture grant. Ontario Tech is responsible for paying the remaining $3M out of the $16.5M/year through its operating funds.

As of March 31st, 2020, the amount of the principal outstanding was $158.1M ($61.9M of the principal had been repaid). The debenture is scheduled to be repaid in full by 2035.

More detailed background information is included in **Appendix C**.

Objectives and Scope

The objective of this engagement was to assess the effectiveness of the governance and controls in place at Ontario Tech to oversee, monitor and report on the institution's financial information, as well as its controls over processes for financial management and compliance to components of the Broader Public Sector Accountability Act (BPSAA).

The scope of this audit engagement, which covered the time period from April 1, 2019 to March 31, 2021, focused on the financial operations and internal controls at Ontario Tech. A review of the revenue streams, including use of operating funding and special purpose grants, as well as an assessment of the governance and financial oversight processes was completed. In addition, relevant process documentation was obtained to understand the internal control environment and to verify compliance with such policies and procedures.

More details on the Objective and Scope is included in **Appendix D**.

Audit Conclusion

Overall, we found that Ontario Tech had processes and mechanisms in place relating to financial procedures, reporting and BPSAA compliance, and that the Board of Governors received appropriate information to oversee, monitor and provide strategic advice on the institution's financial position. However, opportunities exist to strengthen management and oversight of the institution's financial management practices and reporting to the Board. In addition, we identified the need to increase the information provided to the Board related to IT projects, cybersecurity, and IT risks, as well as improve the IT Governance structure.

Key Issues and Recommendations

OIAD noted the following significant issues:

- To facilitate better decision making and strategic outcomes for Board reporting, opportunities exist to provide members with additional information, such as financial health assessment ratios at the time of budget setting, in-year updates on new investments as well as detailed risk information.
- Key Performance Indicators (KPIs) were not tracked or used to communicate strategic business outcomes to the Board over the two years of the audit as the university was refreshing its mission and academic plan. Further, while there is a separate annual risk register, the report could be enhanced with Key Risk Indicators (KRIs) to monitor, manage and mitigate key risks.
- The IT governance structure requires improvements as there is currently no link to provide the Board of Governors with regular updates on IT-related matters including IT projects, cybersecurity and risk management. In addition, IT services were provided in partnership with Durham College, however, while the Shared Services Agreement has been finalized, the detailed Work Description

Documents need to be updated and finalized to reflect current IT services or responsibilities.

Noteworthy Accomplishments

We would like to recognize the noteworthy accomplishments and indicators of good controls identified throughout the audit engagement:

- Ontario Tech has robust policies, practices and procedures in place that support its financial management and Board reporting processes. Controls are in place to ensure the integrity of information utilized in the budgeting, forecasting and financial reporting processes.
- The Audit & Finance Committee, a subcommittee of the Board, appears to be well-informed of the institution's financial position and related action plans. The Committee members are equipped with the appropriate skills required to provide valuable insights and conduct strategic discussions at Committee meetings.
- Ontario Tech's transparency on public facing websites includes processes and procedures, Board agendas and minutes, among other information.
- The institution has a successful partnership with Durham College to support IT Governance, procurement and support processes for managing and prioritizing University and University-College initiatives. In addition, the procurement practices observed in combination with Durham College support the achievement of value for money by utilizing bulk buying opportunities, such as OECM, Government of Ontario Vendor of Record (VOR) programs and institution-established supplier relationships.

Overall Management Response

Management acknowledged OIAD's recommendations and has committed to the following action plans:

- Improve reporting to the Board by including financial components such as financial health indicators during budget setting, clarifying risk descriptions and mitigation plans for strategic risks in the annual summary report, and re-establishing KPIs and KRIs.
- Review IT governance structures to establish clear linkage to the Board and update/finalize supporting components of the Shared Services Agreement with Durham College.
- Enhance financial management process by formalizing cash management practices and updating policies/procedures for procurement and employee expenses to ensure compliance with the BPSAA.

Conformance with Institute of Internal Auditor's Standards

This engagement has been conducted in conformance with the *Institute of Internal Auditor's International Standards for the Professional Practice of Internal Auditing*.

Acknowledgments

We would like to thank those that assisted us with this engagement. In particular, we acknowledge the cooperation and assistance that was provided by management, staff and the Board of Governors at Ontario Tech University.

Approvals

Original signed by:

Erika Cotter
Director, Education Audit Branch
Ontario Internal Audit Division
Office of the Comptroller General
Treasury Board Secretariat

Detailed Observations and Action Plans

Financial and IT Governance

Processes have been established at Ontario Tech to provide an annual budget to the Board which includes a forward-looking multi-year forecast. In addition, the Board expects University Management to put forward a balanced budget annually. Further, the Board and/or the Audit & Finance Committee of the Board receives quarterly financial updates which include interim financial statements, variance analysis, updates on capital projects and compliance with debenture covenants, where applicable.

To support the financial governance process at the Board level, Ontario Tech uses a Board Skills Matrix to inform Board recruitment efforts. The Audit & Finance Committee Terms of Reference requires all committee members to be financially literate and supports are in place to help members develop the requisite knowledge base.

Additionally, Ontario Tech has management-led IT steering committees in place to support governance of IT initiatives that are delivered in conjunction with Durham College.

1. Detailed financial information reporting to the Board and/or Board sub-committees

Medium

Information that is reported to the Board should support informed decision-making and oversight, specifically as it relates to the institution's forecast and financial position.

Based on review of financial information reported to the Board, including budget packages, in-year financial updates and risk reporting, we noted that overall, the Board has received strategic-level information to facilitate decision-making. However, some areas for improvement were noted, specifically:

- Budget packages included key components such as multi-year forecasts, variance analysis, and discussion on financial risks and new initiatives. However, financial health assessment ratios based on a pro-forma balance sheet were not included in the budget setting package material but were included in the year end financial reporting. It is important for the Board to consider financial health assessment ratios at the time of budgeting to be aware of the institution's projected year-end position.
- The budget was approved by the Board on an annual basis. However, approval of the budget occurred a few weeks after the start of the fiscal year. If the budget is not approved before the start of the fiscal year, there is a risk that unapproved expenses may be incurred.

- Financial updates were provided to the Board on a quarterly basis and included management reporting, interim financial statements and variance explanations, and updates on the debenture (including an annual debenture checklist). However, while updates are provided on the large infrastructure projects, there were no updates on new investments and initiatives and their financial impact.
- Quarterly updates on capital projects were also provided, including a discussion on additional financing requirements and the impact on the debenture and related covenants. However, the capital project updates did not include an analysis of project completion against the percent of funds utilized for each project. Including this analysis would support the Board in assessing if capital projects are on track and sufficiently funded.
- The Board received an Annual Risk Report which provided information on risks, their ratings as well as risk owners. However, detailed information such as risk descriptions and mitigation plans were not provided. Without sufficient information, the Board may not be informed to discuss and support the management of key risks, especially foundational and high-risk items.

Overall, while efforts are being made to ensure the Board is informed, further progress can be made. Ultimately, if the Board does not have access to sufficient and appropriate information, the Board may not be able to effectively discharge its responsibilities to oversee the institution's financial position and manage risk.

Recommendation #1
The Vice President, Administration and University Secretary & General Counsel in conjunction with the Board Chair and relevant sub-committee Chairs should consider opportunities to add additional components to Board reporting materials to facilitate oversight and decision-making capabilities.

Management Action Plan

Plan to address the issue/recommendation:
Management agrees with OIAD's recommendation(s) and has committed to the following action plans:

1) When setting the budget, a section will be added to forecast the financial health indicators at the end of the fiscal year if all other budget assumptions are met.
2) The university will create a section in the quarterly reports to highlight in year projects. This will include statements to connect percentage of project completion verses funds used.
3) The university believes that the Board is aware of both the nature and scope of the foundational and high risks, as well as the mitigation efforts. In addition to the annual report, there are specific topics reviewed at A &F Committee meetings and then reported to the Board. To address the concern that this work is not sufficiently explicit,

management will add a summary of the work done by A&F and the Board in the previous year to understand and ensure appropriate mitigation of the high and foundational risks.

Anticipated completion date	Assigned responsibility	Current status of action taken
Jun-22	VP Administration (1 & 2) University Secretary and General Counsel (3)	Limited Progress

Recommendation #2
The Vice President, Administration in conjunction with the Board Chair and relevant sub-committee Chairs should review the timelines for budget approval and/or implement compensating controls to ensure that unapproved expenditures are not being incurred.

Management Action Plan

Plan to address the issue/recommendation:
Management agrees with OIAD's recommendation and has committed to implement controls to ensure unapproved expenditures are not being incurred.

Anticipated completion date	Assigned responsibility	Current status of action taken
Mar-22	Vice President, Administration	Not started

2. Board reporting of Financial Key Performance Indicators and/or Key Risk Indicators

Medium

The governance structure at Ontario Tech is in place to monitor and oversee the institution's financial management and financial position. As such, the use and reporting of key indicators to highlight the performance or the management of key risks to the Board is imperative to help achieve the institution's strategic goals.

We reviewed the institution's use of financial Key Performance Indicators (KPIs) as part of Management's communication to the Board. Throughout the two-year audit scope period no indicators had been tracked and/or communicated to the Board, with the exception of the financial ratios identified by the Council of Ontario Universities (COU). Management noted the lack of communication to the Board was due to a KPI refresh

initiative by the institution to become better aligned with the recent establishment of the key strategic pillars, as well as an updated vision, mission and values. Re-aligning KPIs with the institution's vision, mission and values is a beneficial exercise since KPIs are used to track targets of key strategic business outcomes to support the organization's strategy. Further, although the annual budget package that was presented to the Board included the establishment of Strategic Mandate Agreement (SMA)[2] metric benchmarks for the year, updates on the institution's progress in achieving these goals were not provided to the Board throughout each year.

In addition to establishing relevant KPIs and providing SMA metric report-backs to the Board, it would be beneficial for the institution to identify and track Key Risk Indicators (KRIs). KRIs can be a valuable tool to provide early identification of increasing risk exposures in various areas of the institution.

Both KPIs and KRIs are important measures to help Management and the Board make critical business decisions. Without the establishment and regular monitoring of KPIs and KRIs, there is a risk that the organization may be unable to identify its performance compared to strategic goals and/or recognize early warning signals that will allow Management to monitor, manage and mitigate key risks.

Recommendation #3
The Associate Vice-President, Planning in conjunction with the Board Chair and relevant sub-committee Chairs should continue to work towards the establishment of financial KPIs including report-back on SMA metrics. Establishment of KRIs, leveraging benchmarks established by COU should also be considered. Once established, the Associate Vice-President, Planning should track these indicators and develop a process to update the Board on progress of strategic goals.

Management Action Plan

Plan to address the issue/recommendation:
Management agrees with OIAD's recommendation(s) and has committed to the following action plans:

As part of evolving the institution's Integrated Planning Framework, a comprehensive set of KPIs is being developed that will be reported on an annual basis (by June Annual General Meeting). The KPIs and narrative will summarize key outcomes related to institutional progress towards plan (achieving goals outlined in our Integrated Academic-Research Plan)

[2] Strategic Mandate Agreements (SMAs) are agreements that each publicly-assisted college and university has with the Ministry and include the government's accountability and transparency objectives as well as the school's priorities. One component of the SMAs are performance metrics which are reflective of each institution's individual strengths and distinct mandates as well as the role the institutions play in their local communities and economies. A portion of operating funding is tied to the performance metrics.

which include Financial health indicators as well as a comprehensive SMA3 metric and target performance report. The instituional risk register will be integrated with this annual reporting cycle to leadership teams and the Board.

Work on KPI and KRI identification should be completed by the end of this fall, data collection and report formatting completed in the winter, with the reporting completed for Spring 2022 year-end reporting cycles.

Anticipated completion date	Assigned responsibility	Current status of action taken
Jun-22	Associate Vice-President Planning	Limited Progress

3. Defined rankings for Board skills monitoring framework

Low

To equip the Board to carry out its fiduciary responsibilities, a framework should be in place to select Board members that have the appropriate skillset to assess financial forecasts and information. The institution's Board of Governors Recruitment, Appointment and Leadership Policy sets out the requirements for the composition of the Board and the mechanisms in place to monitor skill and competency requirements. We noted that Ontario Tech's Board Skills Matrix was completed annually by members via self-assessment. This Matrix was then used to inform Board recruitment processes by identifying skill or competency gaps. Based on the completed Matrix and a review of member profiles, no financial competency gaps were noted. As the Matrix was completed via self-assessment, members rated their level of skill/competency for each category on a scale of 1 to 4. However, each rating on the scale was not defined, leaving an element of subjectivity in the assessment.

Without a description or guidelines for what each numeric ranking level means, evaluations may be completed by individual Board members in an inconsistent manner which could result in gaps in the Board skills composition.

Recommendation #4
The University Secretary & General Counsel should develop guidelines or definitions for each skill ranking level to support consistency in skill assessments completed by Board members.

Management Action Plan

Plan to address the issue/recommendation:		
Management agrees with OIAD's recommendation. Guidelines for each skill ranking level will be implemented for the start of the next board year.		
Anticipated completion date	**Assigned responsibility**	**Current status of action taken**
Aug-22	University Secretary and General Counsel	Not started

4. IT governance structure review and linkage to the Board[3]

Medium

Establishing an effective IT governance framework involves defining organizational structures, processes and leadership roles to ensure that IT investments and risks are managed in line with enterprise strategies and the organization's risk appetite. It requires IT governance bodies to report to the Board on IT strategy, performance and risks.

Ontario Tech's governance structure (See **Appendix A**) includes IT Steering Committees which comprises membership from both the University and Durham College who shares IT services with the University. With the exception of an Annual Risk Report which included some high-level IT risks, no reports were delivered to the Board on IT governance-related matters such as IT projects, cybersecurity and risk management on a regular basis. Further, although the IT governance structure was defined, it did not include formal linkages to the Board. Without the appropriate flow of information, the Board may be unable to discharge its responsibilities for risk management and strategic alignment pertaining to IT matters.

Additionally, we noted Ontario Tech's IT services were provided in partnership with Durham College. The Shared Services Agreement (Agreement) between the two institutions provided a solid basis for defining reciprocal services, roles and responsibilities of each party in the agreement. Responsibility for the delivery of some IT services were partially or fully transferred to third parties, however, the Agreement did not reflect the new responsibilities for the provision of current IT services, nor the responsibility for managing third party arrangements. This was as a result of the Agreement not having been reviewed since establishment in 2015. Furthermore, Work

[3] The scope of our audit did not include a detailed audit of IT governance or IT-related controls. The design and operating effectiveness of the IT control processes were also out of scope for this engagement.

Description Documents, which were used to define service-specific scope, management and requirements were not finalized and did not include reporting requirements for several IT service components. If new or revised services and responsibilities are not included in the Agreement and Work Description Documents are not finalized, services provided may not meet the needs of the institution.

In assessing Ontario Tech's IT governance and controls, we referenced the Information Systems Audit and Control Association's *Control Objectives for Providing IT Governance*, (see **Appendix B**) and suggest that Ontario Tech consider using a model similar to this to complete a self assessment and to plan out their path to continue to improve their overall governance and controls.

Recommendation #5
The Vice President, Administration in conjunction with the Board Chair and relevant sub-committee Chairs should define linkages between the IT Governance Committees and the Board to include regular reporting on IT governance and risk matters.

Management Action Plan

Plan to address the issue/recommendation

Management agrees with OIAD's recommendation and will review IT governance structures to establish a clear linkage to the board linking the IT strategy to items such as new projects, cyber-security and risks.

Anticipated completion date	Assigned responsibility	Current status of action taken
Apr-22	Vice President, Administration	Not started

Recommendation #6
A formal process to review, update and finalize the Shared Services Agreement and related Work Description Documents should be established by the Vice President, Administration in conjunction with Durham College to ensure that the Agreement reflects current business requirements, and IT services and arrangements. Further the Work Description Documents should also include the reporting requirements of that service.

Management Action Plan

Plan to address the issue/recommendation:

Management agrees with OIAD's recommendation and will work with Durham College to update and finalize the IT Work Description Documents

Anticipated completion date	Assigned responsibility	Current status of action taken
Aug-22	Vice President, Administration	Not started

Financial Management

Ontario Tech has a comprehensive financial management and reporting process which includes their annual budgeting process, quarterly forecasting and financial reporting, and cash forecasting and management. The budgeting process includes enrolment modeling and strategic consideration to the funding of new initiatives or budget cuts where required, including budgeting for annual debenture obligations.

In-year financial forecast monitoring and reporting includes analysis of variances as well as reviewing performance against COU financial ratios. The existing cash management process includes an annual cash budgeting process as well as monthly forecasting and variance analysis. Cash is managed in eight separate bank accounts, some of which are used to separate restricted funds from the main operating funds of the University.

5. Formalization of Cash Management Policy

Medium

To ensure the institution has a sound financial management and reporting structure, processes and controls should be clearly documented to support financial management and reporting, including cash flow management and budgeting.

Ontario Tech has established cash management processes which included a cash budget that was aligned with the institution's operating budget and set aside funds to pay the annual debenture obligation. To support cash forecasting and management, the institution had eight separate bank accounts, including one main operating account. The balance of the main operating account fluctuated significantly during the year, with its highest balances in September and January, aligning with receipt of student tuition at the beginning of academic terms. In the 2020-21 fiscal year the balance exceeded $40M in September and January, which was subsequently used to pay the operating expenses for the academic term.

The institution performed a monthly cash reconciliation and considered opportunities for investing cash that exceeded anticipated expenses for the academic term. However, these decisions were made on an ad-hoc basis and were not formalized in a cash management policy.

Without a formalized cash management and/or investment policy, the institution may not consistently make decisions to invest funds in excess of its short-term cash needs.

Further the institution may hold temporarily idle cash in the main operating bank account where day-to-day transactions occur. Holding idle cash balances in the main operating account increases the risk of fraud and reduces potential income-generating investment opportunities.

Recommendation #7
The Executive Director, Financial Planning & Reporting should consider formalizing cash management practices to optimize the management of temporarily idle cash in the short-term.

Management Action Plan

Plan to address the issue/recommendation:

Management agrees with OIAD's recommendation to formalize our cash management practices. Historically, all surplus operating cash over and above $20.0M has been invested in short-term investment certificates (GIC's) unless there is known cash requirement for approved projects.

Anticipated completion date	Assigned responsibility	Current status of action taken
Apr-22	Executive Director, Financial Planning & Reporting	Some Progress

Procurement and Expenses, including Compliance with the BPSAA

Ontario Tech has procurement and expense policies and procedures which provide guidance to employees of the institution. Further, the Finance Department in conjunction with Durham College who provides procurement services to the University, have processes in place to review expenses for compliance to policies and procedures.

There are procurement practices in place at the institution to support value-for-money strategies such as bulk purchasing through OECM, Government of Ontario VORs and institution-established VORs.

6. Management of corporate credit cards

Medium

An effective corporate credit card program has measures in place to ensure that cards are issued only to employees who require them and that they are cancelled when no longer required by employees or when an employee leaves the organization.

Ontario Tech has a corporate card program that was generally well managed. Cards issued to individuals were usually cancelled when that employee left the organization. However, we noted the following exceptions:

- 17 corporate cards were issued to departments instead of individual employees. Per the University's process for managing department corporate cards, the cards are internally assigned to an employee who is responsible for making purchases and reconciling the corporate card. When there is turnover in the position, the card is administratively reassigned to another employee, rather than cancelled. As such, there is an opportunity for the previous employee to retain the card information and continue to use the card as it remains active. It is considered a best practice, both within the OPS and in external organizations, to have corporate cards assigned directly from the bank to specific individuals to improve accountability and reduce fraud risks.
- Corporate cards were issued to seasonal employees who required corporate cards to carry out their job responsibilities when employed by the University. Since these employees returned to their positions at the University annually, their corporate cards were not cancelled or suspended, but were instead held by the University and monitored by the Finance Department.

Failure to ensure appropriate accountability and controls on corporate cards could put the institution at risk for fraud.

Recommendation #8
The Director, Financial Operations should ensure that there is a process in place to issue corporate cards only to individual employees and deactivate/suspend cards when employees (including seasonal employees) leave the organization.

Management Action Plan

Plan to address the issue/recommendation:

Management agrees with OIAD's recommendations and has committed to the following action plans:

1) Transitioning department cards to individuals.
2) Ensuring cards for contract employees are inactivated when contract ends.

Anticipated completion date	Assigned responsibility	Current status of action taken
Dec-21	Director, Financial Operations	Not started

7. TMHE expense claim processes and practices

Medium

In order to manage expenditures and ensure funds are used only for their intended purposes, the institution must have processes and controls in place to ensure compliance with their Expense Policy, which includes complying with the requirements of the Broader Public Sector Accountability Act (BPSAA).

Based on our review of sampled expense claims as well as interviews with the Finance Department, we identified that there is a process in place for the Finance Department to review all expense claims before payment. This process includes a review for reasonability against the Policy. However, we noted the following areas where there may not be sufficient clarity in the policies and procedures for reviewing and processing expense claims:

- The Expense Policy states that expenses must be submitted and approved within two months of the expense being incurred, however, based on interviews with the Finance Department, this requirement was a guideline and claims were processed when submitted and approved late.
- Since corporate credit cards were used to pay for travel fare in advance of actual travel dates, the reconciliation of these cards did not always include proof of travel. We identified that there is no process in place to follow-up on travel paid in advance to confirm that travel occurred for the intended and approved purpose.
- Employees were expected to submit a conference agenda when submitting a related expense claim to provide evidence of whether meals were provided during the conference. However, this information was not consistently included in claims or shared with the Finance Department for review. This documentation requirement was not included in the Expense Policy.
- Although the Finance Department reviewed expense claims for reasonability, the review did not consistently identify instances where there were small overages on meal allowance thresholds.

If documentation requirements for expense claims are not clearly communicated and not consistently included in the Finance Department's review process, there is a risk that the University may be incurring additional expenses that do not support the business of the University.

Ontario Tech also had a process for employees to submit expense claims and/or reconcile expenses incurred on their corporate credit card and for review by faculty/department and by the Finance Department. Upon review of a sample of expense claims, we identified that not all expense claims were in full compliance with the University's Expense Policy.

- Pre-approvals were communicated verbally, or documentation was not provided to the Finance Department when the expense claim was submitted and approved for more than 60% of the samples selected.
- Receipts were not consistently provided to comply with the requirements of the Policy for more than 50% of the samples selected. Specifically, reservation confirmations were provided instead of actual receipts and boarding passes. Furthermore, itemized receipts were not always provided, and expenses were submitted with credit card receipts instead.
- Rental vehicles were not rented using a corporate card in 50% of the samples selected where a rental vehicle was utilized. Using a corporate credit card allows the renter to leverage the corporate card's insurance coverage.
- Specific lists of attendees for meals where multiple employees were in attendance were not included in all samples selected where there were multiple employee attendees at the meal.

If claims are not submitted with sufficient supporting documentation to demonstrate compliance with the Expense Policy, there is a risk that the University may be incurring additional expenses that do not support the business of the University.

Additionally, we reviewed hospitality expense claims which where reimbursed under the University's Visiting Scholar program. Expenses claimed under the program were allowable based on the Letter of Invitation (Letter) which outlined reimbursable expenses for each professor under the program and set out maximum dollar thresholds. However, we noted that although the Letter stated that only expenses incurred for accommodations and meals would be reimbursed, allowances were made for several exceptions related to expenses outside of the allowable living expenses per the Letter. If reimbursements are made for expenses not deemed as allowable in the Letter, there is a risk that the University may be incurring additional expenses that do not support the business of the University.

Recommendation #9
The Director, Financial Operations should update expense claim processes and practices so that claims are not processed unless all requirements of the Expense Policy have been met.

Management Action Plan

Plan to address the issue/recommendation:

Management agrees with OIAD's recommendations and has committed to the following action plans:

1) Will revise our expense policy to add clarity to process.
2) Will develop an online training session to educate all users.

3) Will review a new sampling process in finance to ensure greater assessment of expenses submissions.

Anticipated completion date	Assigned responsibility	Current status of action taken
Apr-22	Director, Financial Operations	Some Progress

Recommendation #10
The Director, Financial Operations should update the guidelines for the Visiting Scholar program to clarify allowable expenses and to ensure that compliance with the BPSAA is maintained.

Management Action Plan

Plan to address the issue/recommendation:

Management agrees with OIAD's recommendations and has updated the Visiting Scholar program in January 2021 to allow for other cost of living expenses (other than rent and meals). We will add clarity by inserting some examples of eligible and ineligible expenses.

Anticipated completion date	Assigned responsibility	Current status of action taken
Oct-21	Director, Financial Operations	Some Progress

8. Alignment of Procurement and Expense policies and procedures with the Broader Public Sector Accountability Act (BPSAA)

Low

As a designated Broader Public Sector (BPS) organization, Ontario Tech is required under the BPS Accountability Act (BPSAA) to comply with directives issued by the Management Board of Cabinet. The BPS Procurement and Travel Meal Hospitality Expense (TMHE) Directives include mandatory requirements with which the institution must comply. These requirements are intended to ensure organizations can demonstrate processes exist to consider the code of ethics, as well as ensure that value for money is achieved.

The majority of the Ontario Tech's procurement policies and procedures were compliant with the BPSAA. However, the following additional inclusions are required:

- Update the policy and procedure to reflect the need to include the final procurement agreement in all procurement bids
- Include a reference to the Interim Measures, released by the Ontario Public Service on March 18, 2019 for procurement of goods and services >$100K. These measures have been designed to support consistency in procurement-related decisions during the transition to a centralized procurement model.

Additionally, we reviewed the institution's Expense Policy and Procedure for compliance with the TMHE Directive. Generally, Ontario Tech's policies and procedures were found to be aligned with the Directive, with the exception of the following required additions:

- Provide direction to employees regarding expense overpayments.
- Provide guidance to indicate employees must submit all claims before leaving the organization.

Without each element of the BPS Directives directly embedded into the institution's policies and procedures, there is a risk that the institution may not comply with the Broader Public Sector requirements.

Recommendation #11
The Director, Financial Operations should update the procurement and TMHE policies and procedures to include all elements of the BPSAA Directives, as well as reference the procurement interim measures.

Management Action Plan

Plan to address the issue/recommendation:

Management agrees with OIAD's recommendations and has committed to updating our purchasing and expense policy/procedures. We will look to address these recommendations in our revised documents.

Anticipated completion date	Assigned responsibility	Current status of action taken
Jun-22	Director, Financial Operations	Limited Progress

9. Alignment of Invoice Signing Authority Policy with current practices

Low

Policies are designed to provide guidance to employees to ensure consistent practices across the organization. Ontario Tech has a Signing Authority Policy in place to specify the signing requirements for various types of contracts, acquisitions, agreements. The

policy is in effect to enable senior administrators to structure and manage their responsibilities in an effective and efficient manner.

We noted that the current Policy required a minimum of two signatures for all invoices, however, the practice was to have only one signatory on invoices to confirm receipt of goods or services. Inconsistencies between the policy and practices may result in expenses being incurred for goods or services that were not received in alignment with the agreed upon terms.

Recommendation #12
The Director, Financial Operations should revisit the invoice signing authority requirements and ensure practices align with the Signing Authority Policy.

Management Action Plan

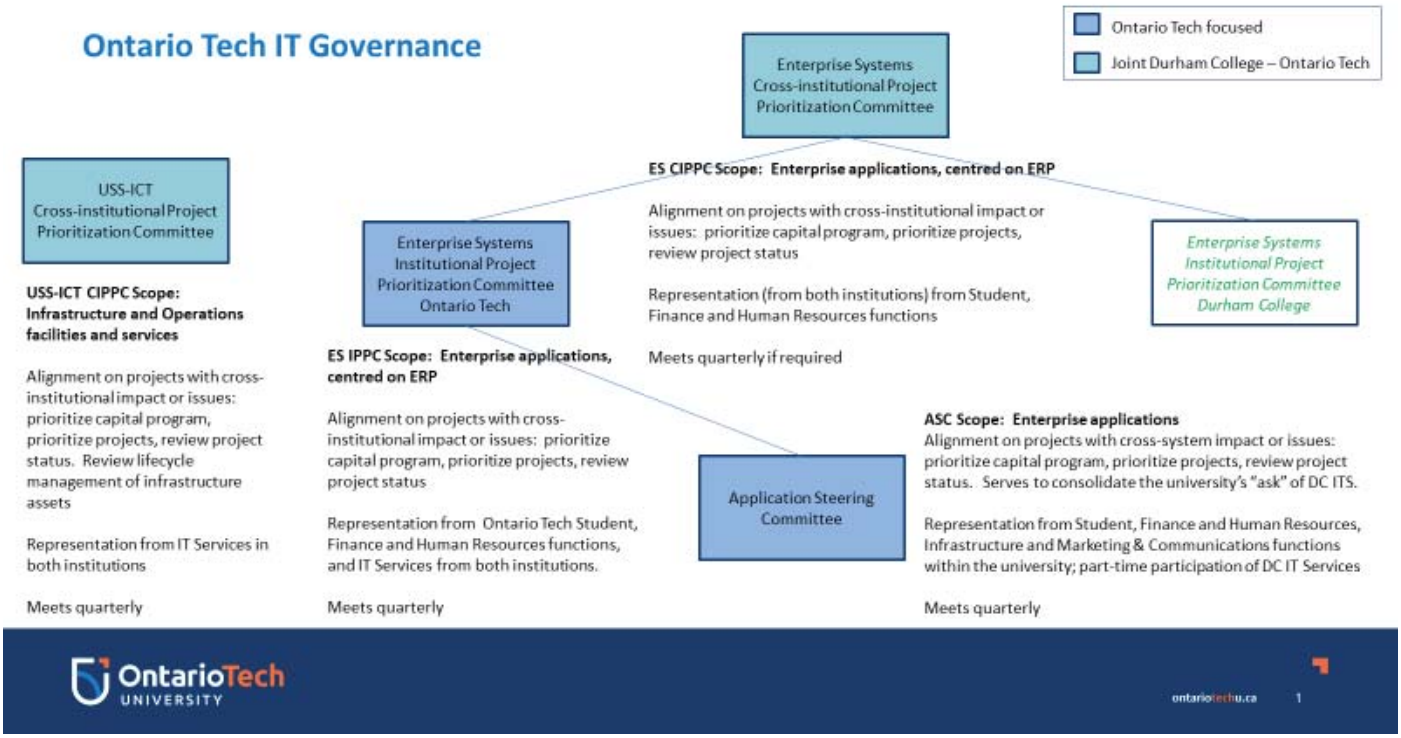
Plan to address the issue/recommendation:

Management agrees with OIAD's recommendations and has committed to reviewing the signing authority policy which was updated in June 2021 to ensure that our practices are properly documented. We will update the policy/procedures where necessary.

Anticipated completion date	Assigned responsibility	Current status of action taken
Apr-22	Director, Financial Operations	Not started

Appendices

Appendix A: Ontario Tech University IT Governance Structure



Appendix B: Information Systems Audit and Control Association's Control Objectives for Providing IT Governance

The table below may be leveraged by Ontario Tech to complete a self-assessment of IT governance.

		Process Capability Levels (see figure 1 below)					
		Level 0 Incomplete	Level 1 Performed	Level 2 Managed	Level 3 Established	Level 4 Predictable	Level 5 Optimizing
Control Objectives (see figure 2 below)	ME4.1 Establishment of an IT Governance Framework						
	ME4.2 Strategic Alignment						
	ME4.3 Value Delivery						
	ME4.4 Resource Management						
	ME4.5 Risk Management						
	ME4.6 Performance Measurement						
	ME4.7 Independent Assurance						

Figure 1 – Process Capability Levels

Process Level	Capability
0 (Incomplete)	The process is not implemented or fails to achieve its process purpose. At this level, there is little or no evidence of any systematic achievement of the process purpose.
1 (Performed)	The implemented process achieves its process purpose.
2 (Managed)	The performed process is now implemented in a managed fashion (planned, monitored and adjusted) and its work products are appropriately established, controlled and maintained.
3 (Established)	The managed process is now implemented using a defined process that is capable of achieving its process outcomes.
4 (Predictable)	The established process now operates within defined limits to achieve its process outcomes.
5 (Optimizing)	The predictable process is continuously improved to meet relevant current and projected business goals.

Figure 2 – Control Objectives

ME4 Monitor and Evaluate
Provide IT Governance

Control Objectives

ME4 Provide IT Governance

ME4.1 Establishment of an IT Governance Framework
Define, establish and align the IT governance framework with the overall enterprise governance and control environment. Base the framework on a suitable IT process and control model and provide for unambiguous accountability and practices to avoid a breakdown in internal control and oversight. Confirm that the IT governance framework ensures compliance with laws and regulations and is aligned with, and confirms delivery of, the enterprise's strategies and objectives. Report IT governance status and issues.

ME4.2 Strategic Alignment
Enable board and executive understanding of strategic IT issues, such as the role of IT, technology insights and capabilities. Ensure that there is a shared understanding between the business and IT regarding the potential contribution of IT to the business strategy. Work with the board and the established governance bodies, such as an IT strategy committee, to provide strategic direction to management relative to IT, ensuring that the strategy and objectives are cascaded into business units and IT functions, and that confidence and trust are developed between the business and IT. Enable the alignment of IT to the business in strategy and operations, encouraging co-responsibility between the business and IT for making strategic decisions and obtaining benefits from IT-enabled investments.

ME4.3 Value Delivery
Manage IT-enabled investment programmes and other IT assets and services to ensure that they deliver the greatest possible value in supporting the enterprise's strategy and objectives. Ensure that the expected business outcomes of IT-enabled investments and the full scope of effort required to achieve those outcomes are understood; that comprehensive and consistent business cases are created and approved by stakeholders; that assets and investments are managed throughout their economic life cycle; and that there is active management of the realisation of benefits, such as contribution to new services, efficiency gains and improved responsiveness to customer demands. Enforce a disciplined approach to portfolio, programme and project management, insisting that the business takes ownership of all IT-enabled investments and IT ensures optimisation of the costs of delivering IT capabilities and services.

ME4.4 Resource Management
Oversee the investment, use and allocation of IT resources through regular assessments of IT initiatives and operations to ensure appropriate resourcing and alignment with current and future strategic objectives and business imperatives.

ME4.5 Risk Management
Work with the board to define the enterprise's appetite for IT risk, and obtain reasonable assurance that IT risk management practices are appropriate to ensure that the actual IT risk does not exceed the board's risk appetite. Embed risk management responsibilities into the organisation, ensuring that the business and IT regularly assess and report IT-related risks and their impact and that the enterprise's IT risk position is transparent to all stakeholders.

ME4.6 Performance Measurement
Confirm that agreed-upon IT objectives have been met or exceeded, or that progress toward IT goals meets expectations. Where agreed-upon objectives have been missed or progress is not as expected, review management's remedial action. Report to the board relevant portfolios, programme and IT performance, supported by reports to enable senior management to review the enterprise's progress toward identified goals.

ME4.7 Independent Assurance
Obtain independent assurance (internal or external) about the conformance of IT with relevant laws and regulations; the organisation's policies, standards and procedures; generally accepted practices; and the effective and efficient performance of IT.

Appendix C: Background

Ontario's Universities and Colleges are governed by the Board of Governors for each institution. In accordance with the applicable Acts, the Ministry of Colleges and Universities (the Ministry or MCU) has representation on the Board of Governors up to the allowable number of Lieutenant Governor in Council (LGIC) appointments included under the applicable legislation.

Each university is established by way of an Act which creates the university and sets out the governance framework. Each university is also responsible for establishing its by-laws based on its requirements. The Ministry does not provide any additional policy framework for universities. However, the Ministry does provide operating and capital funding to publicly assisted postsecondary educational institutions (22 universities including the Northern Ontario School of Medicine and 24 colleges).

Operating and capital funding is disbursed to colleges and universities through a variety of grants. The total approved operating funding and grants for MCU and for publicly assisted universities:

	2021/22	**2019/20**
Operating Grants to Universities	$3.6B	$3.6B

Operating grants contributed approximately 33% of the total revenue for universities in the year 2019-20. During the same period, domestic and international fees contributed 49% to revenue of universities. The percentage of operating grants have continuously declined over the last 10 years with operating grants representing 48% of the total revenue in the year 2009-10.

It is the responsibility of the governing board and senior administrators of the University to identify, track, and address financial pressures and sustainability issues. The Ministry has a financial stewardship role.

Ontario Tech was granted university status in 2002 and has approximately 9,900 undergraduate students and 815 graduate students, international student enrolment accounted for approximately 8% of enrolment in 2019-20. Ontario Tech is governed by both a Board of Governors and an Academic Council. In 2019-20, MCU allocated $73.9M in operating grants to Ontario Tech.

Ontario Tech Debenture

An expansion of Ontario Tech's campus was undertaken with the assistance of a $60M capital grant from the province and no additional funding was provided. Due to the additional capital requirements and based on the recommendation of an external reviewer the government permitted Ontario Tech to issue a $220M debenture

guaranteed by Durham College[4] (6.351%[5], semiannual payments April 15 and October 15, 30 years) in 2005. The bonds are held by the Bank of New York, and the bondholders are out of province and country. The payments total $16.5M annually comprising of both capital and interest.

In 2011, MCU signed a transfer payment agreement with Ontario Tech, where the Ministry committed $13.5M/year through a debenture grant. This grant replaced other MCU funding averaging $10M annually. MCU also made a payment of $6.75M to Ontario Tech to offset some of the repayments Ontario Tech made from 2004-2010. Ontario Tech is responsible for $3M out of the $16.5M/year through its operating funds.

As of March 31st, 2020, the debenture's total principal and interest paid is $247.5M (2019: $231M). Of this amount $196.5M was funded by MCU and the other $51M was funded by the University. As at March 31, 2020 $217.4M has been used to finance capital assets. The fair value of the debenture is $194.3M (2019: $205.7M); which is comprised of both outstanding principal and interest payments discounted at market rates available to the University at the financial statement date. The amount of the principal outstanding was $158.1M. $61.9M of the principal has been repaid. The debenture is scheduled to be repaid in full by 2035.

[4] Guarantee will be a direct, senior unsecured obligation of the College and will rank pari passu [at the same rate] with all of the College's other senior unsecured and unsubordinated obligations. The guarantee is limited to the assets held by the College and will have no recourse to the consolidated revenue fund of the Province of Ontario.

[5] Interest rate is a fixed rate.

Appendix D: Objectives, Scope and Criteria

Objectives

The objectives of this audit were to assess the effectiveness of the following at Ontario Tech University:

- Governance and controls in place at Ontario Tech to oversee, monitor and report on the institution's financial position.
- Controls over the processes for financial management and compliance to components of the Broader Public Sector Act.

These objectives were evaluated in light of the criteria provided below.

Scope

Our scope period for this audit was from April 1, 2019 to March 31, 2021 and was focused on the financial operations and internal controls at the postsecondary institution. For the purposes of this engagement Ontario Tech was selected for review:

Our scope included the following:

- Obtained details of revenue streams including operating funding and special purpose grants.
- Conducted interviews with management and staff to discuss administrative management, financial and reporting processes.
- Reviewed the board governance and financial oversight processes.
- Obtained relevant process documentation to fully understand risks and to assess the state of internal controls at the University.

The engagement was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing.

Criteria

1. Appropriate governance structure is in place to monitor and oversee Ontario Tech's financial management and financial position. This should include reporting to management and to the Board, and action taken where deemed necessary.
2. Appropriate processes and controls pertaining to financial management are in place. These may include cash flow management, budgeting and forecasting, and reporting.
3. Organization structure with roles, responsibilities and accountabilities are clearly documented to support governance, processes and controls in place over financial management and reporting.

4. Appropriate processes and controls are in place to support compliance with the Broader Public Sector Act, including procurement, have been established and implemented at Ontario Tech University.

Appendix E: Audit Risk Ranking Categories

Overall Audit Report Risk Rating – Risk Ranking if one or more of the criteria are met under each column

1 **Low** (Enhancements Required)	**2** **Medium** (Improvement Required)	**3** **Medium-High** (Significant Improvement Required)	**4** **High** **(**Immediate Action Required)
• Key controls are adequately and appropriately designed, and are operating effectively to support ministry objectives and manage risks • Audit recommendations resulted in only minor enhancements to the effectiveness or efficiency of controls and processes • Minor corrective action and oversight by management is needed	• A few key control weaknesses require enhancements to better support program objectives and manage risks, and/or a few key controls are not operating effectively • Audit recommendations resulting in some enhancements to the effectiveness or efficiency of controls and processes • Corrective action and oversight by management is needed	• Numerous key control weaknesses require significant improvement to support program objectives and manage risks, and/or some key controls are not operating effectively • Audit recommendations resulting in numerous enhancements to the effectiveness or efficiency of controls and processes • Corrective action and oversight by senior management is required in near future	• Key controls are not adequately designed and/or are not operating effectively, or there is an absence of appropriate key controls to support ministry objectives and manage risks • Audit recommendations resulting in major enhancements to the effectiveness or efficiency of controls and processes • If audit becomes aware of any suspected/confirmed fraud by management or staff • Corrective action and oversight by senior management is required immediately

Individual Audit Issues – Risk Ranking if one or more of the criteria are met under each column

1 **Low Risk** (Satisfactory Controls)	2 **Medium Risk** (Control Need Some Improvements)	3 **Medium-High Risk** (Control Need Significant Improvements)	4 **High Risk** (Controls Not Satisfactory)
• Risk(s) are mostly being addressed by internal control systems • Risk(s) associated with potential control failures exist but are not material or significant to the objectives • Internal controls (design & operating effectiveness) are well managed and measured for effectiveness • Additional evaluation criteria (if required)	• Risk(s) are not consistently being addressed by internal control systems and require improvements/ enhancements • Risk(s) associated with potential control failures exist and can be material or significant to the objectives • Internal controls (design & operating effectiveness) processes are consistently implemented but not measured for effectiveness • Additional evaluation criteria (if required)	• Risk(s) are not adequately being addressed by internal control systems and require significant improvements/ enhancements • Risk(s) associated with potential control failures are material or significant to the objectives • Internal controls (design & operating effectiveness) are not consistently implemented • Additional evaluation criteria (if required)	• Due to the absence of effective risk management practices, management is unable to identify, monitor or control significant risk/exposure • Risk(s) associated with potential control failures are highly material or highly significant to the objectives • Internal controls (design & operating effectiveness) are not formalized and are performed in an ad-hoc and reactive manner • Additional evaluation criteria (if required)

Appendix F: List of Audit Observations, Recommendations and Risk Rankings

Scope Area	Detailed Issues / Observations	Risk Ranking Category based on Appendix E	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
Financial and IT Governance	**1. Detailed financial information reporting to the Board and/or Board sub-committees.** The following elements were not included in the financial information reported to the Board: financial health assessment ratios at the time of budgeting, analysis of project completion against percent of funds used for capital projects currently underway, and detailed information about key risks and mitigation plans.	Medium	**R1.** Consider opportunities to add additional components to Board reporting materials to facilitate oversight and decision-making capabilities.	The University will forecast financial health indicators in the budget, highlight in-year projects quarterly (incl. percent of project completion vs. funds used), and provide a summary of work done by the Board to understand and ensure appropriate mitigation of high and foundational risks. **Implementation Owner:** VP Administration and University Secretary & General Counsel	06/30/2022

Scope Area	Detailed Issues / Observations	Risk Ranking Category based on Appendix E	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
			R2. Review the timelines for budget approval and/or implement compensating controls to ensure that unapproved expenditures are not being incurred.	The University will implement controls to ensure unapproved expenditures are not being incurred. **Implementation Owner:** VP Administration	03/31/2022
Financial and IT Governance	**2. Board reporting of Financial KPIs and/or KRIs.** KPIs were being re-established and were therefore not being tracked/communicated to the Board. KRIs have not been established by the University.	Medium	**R3.** Continue to work towards the establishment of financial KPIs and should consider the establishment of KRIs, leveraging benchmarks established by the Council of Ontario Universities (COU). Once established, track these indicators and develop a process to update the Board on progress of strategic goals.	A comprehensive set of KPIs and KRIs are being developed for reporting on an annual basis. The KPIs will include financial health indicators, Strategic Mandate Agreement (SMA3) metric report and integration with the institutional risk register.	06/30/2022

Scope Area	Detailed Issues / Observations	Risk Ranking Category based on Appendix E	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
				Implementation Owner: AVP Planning	
Financial and IT Governance	**3. Defined rankings for Board skills monitoring framework.** The Board Skills Matrix was completed by each Board member who ranked their skill level on a scale of 1 to 4, however, there was no description for what each ranking meant, leaving an element of subjectivity in the assessment.	Low	**R4.** Develop guidelines or definitions for each skill ranking level to support consistency in skill assessments completed by Board members.	Guidelines for each skill ranking level will be implemented for the start of the next board year. **Implementation Owner:** University Secretary & General Counsel	08/31/2022
Financial and IT Governance	**4. IT governance structure review and linkage to the Board**. The IT governance structure did not define linkages to the Board; therefore, reports on IT governance matters were not provided to the Board regularly. Further, the Shared Services	Medium	**R5.** Define linkages between the IT Governance Committees and the Board to include regular reporting on IT governance and risk matters.	The University will review IT governance structures to establish a clear linkage to the Board linking IT strategy to items such as new projects, cyber-security and risks.	04/30/2022

Scope Area	Detailed Issues / Observations	Risk Ranking Category based on Appendix E	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
	Agreement included unfinalized and outdated components.			**Implementation Owner:** VP Administration	
			R6. A formal process to review, update and finalize the Agreement and related Work Description Documents should be established to ensure that it reflects current business requirements, and IT services and arrangements. Work Description Documents should also include the reporting requirements of that service. of that service.	The University will work with Durham College to update and finalize the IT Work Description Documents. **Implementation Owner:** VP Administration	08/31/2022
Financial Management	**5. Formalization of Cash Management Policy.** A formalized	Medium	**R7.** Consider formalizing cash management	Cash management practices will be formalized.	04/30/2022

Scope Area	Detailed Issues / Observations	Risk Ranking Category based on Appendix E	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
	cash management model/policy was not established to govern the institution's short-term cash needs and separate temporarily idle cash from the main operating bank account.		policies to optimize the management of temporarily idle cash in the short-term.	**Implementation Owner:** Executive Director, Financial Planning & Reporting	
Procurement and Expenses, incl. Compliance with the BPSAA	**6. Management of corporate credit cards.** Some corporate cards were issued on a departmental basis instead of to individual employees. Select seasonal employees were also cardholders.	Medium	**R8.** Ensure that there is a process in place to issue corporate cards only to individual employees and deactivate/suspend cards when employees (incl. seasonal employees) leave the organization.	The University will transition department cards to individuals and ensure cards for contract employees are inactivated when their contract ends. **Implementation Owner:** Director, Financial Operations	12/31/2021

Scope Area	Detailed Issues / Observations	Risk Ranking Category based on Appendix E	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
Procurement and Expenses, incl. Compliance with the BPSAA	**7. TMHE expense claim processes and practices.** Not all expense claims were in full compliance with the University's expense policy. Further, opportunities exist to clarify the expense policies and procedures and improve Finance Department review of expense claims. Finally, guidelines for allowable expenses under the Visiting Scholar program were not being adhered	Medium	**R9.** Update expense claim processes and practices so that claims are not processed unless all requirements of the Expense Policy have been met.	The expense policy will be revised, online training session will be developed to educate all users and a sampling process will be established to ensure greater assessment of expenses. **Implementation Owner:** Director, Financial Operations	04/30/2022

Scope Area	Detailed Issues / Observations	Risk Ranking Category based on Appendix E	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
	to in a consistent manner.		**R10.** Update the guidelines for the Visiting Scholar program to clarify allowable expenses and ensure that compliance with the BPSAA is maintained.	The Visiting Scholar program was updated in 2021 to allow for other cost of living expenses. Clarity will be added by inserting some examples of eligible and ineligible expenses. **Implementation Owner:** Director, Financial Operations	10/31/2021
Procurement and Expenses, incl. Compliance with the BPSAA	**8. Alignment of Procurement and Expense policies and procedures with the BPSAA.** Generally, Ontario Tech's policies and procedures aligned to the BPSAA Directives, however, some exceptions were identified. Further, the Procurement policy and	Low	**R11.** Update the procurement and TMHE policies and procedures to include all elements of the BPSAA Directives, as well as reference the procurement interim measures.	Purchasing and expense policies/procedures will be updated to address these recommendations. **Implementation Owner:** Director, Financial Operations	06/30/2022

Scope Area	Detailed Issues / Observations	Risk Ranking Category based on Appendix E	Recommendation	Management Action Plan and Responsible Personnel	Management Action Plan Expected Completion Date
	procedures did not reference the Interim Measures for procurement.				
Procurement and Expenses, incl. Compliance with the BPSAA	**9. Alignment of Invoice Signing Authority Policy with current practices.** The Policy required that two signatures were required to confirm receipt of goods/services on all invoices, however, the practice in place was to have only one approver confirm receipt of the goods/services.	Low	**R12.** Revisit the invoice signing authority requirements and ensure practices align with the Signing Authority Policy.	The signing authority policy which was updated in June 2021 will be reviewed to ensure that our practices are properly documented. We will update the policy/procedures where necessary **Implementation Owner:** Director, Financial Operations	04/30/2022

Appendix G: OIAD Contacts

This engagement is conducted by the Education Audit Branch:

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Stephen Reingold, Senior IT Audit Specialist

Reviewed by

Shirley D'Souza, Senior Audit Manager

Erika Cotter, Director

Appendix H: Distribution List

Distribution of the final report is to the following:

Shelley Tapp, Deputy Minister, Ministry of Colleges and Universities (MCU)

Kelly Shields, Assistant Deputy Minister, Postsecondary Education Division, MCU

Dr. Steven Murphy, President and Vice Chancellor, Ontario Tech University

Sanjeev Batra, A/Chief Internal Auditor, Ontario Internal Audit Division, Office of the Comptroller General, Treasury Board Secretariat

Sector Audit Committee and Permanent Guests

Ontario Internal Audit Committee (OIAC) and Permanent Guests

Audit and Accountability Committee (AAC) Chair's Office

Appendix I: Acronyms

AVP	Associate-Vice President
BPS	Broader Public Sector
BPSAA	Broader Public Sector Accountability Act
COU	Council of Ontario Universities
KPI	Key Performance Indicator
KRI	Key Risk Indicator
LGIC	Lieutenant Governor in Council
MCU	Ministry of Colleges and Universities
OECM	Ontario Education Collaborative Marketplace
OIAD	Ontario Internal Audit Division
SMA	Strategic Mandate Agreement
TMHE	Travel, Meal and Hospitality Expense
VOR	Vendor of Record

BOARD REPORT

SESSION:		ACTION REQUESTED:	
Public	☒	Decision	☐
Non-Public	☐	Discussion/Direction	☐
		Information	☒

TO: Board of Governors

DATE: March 10, 2022

PRESENTED BY: Brad MacIsaac, VP Administration

SUBJECT: ACE Enhancement Project – Update

COMMITTEE/BOARD MANDATE:

The Strategy and Planning Committee is responsible for overseeing the strategic planning for all aspects of the university and assessment of the plans in the context of the university's vision, mission and values. More specifically, the committee oversees any major renovation or construction projects.

BACKGROUND/CONTEXT & RATIONALE:

At the October meeting a detailed project summary and timeline was provided. It noted that Phase II: Controls/integration & Debug would occur over Nov/ Dec and Phase III: Commissioning and Acceptance is planned for Jan/ Feb.

The ACE team is on track and planning early March for official opening.

IMPLICATIONS:

As we enter the final integration phase we are able to close out costs and delay contracts in order to work within the Board approved $16.525M.

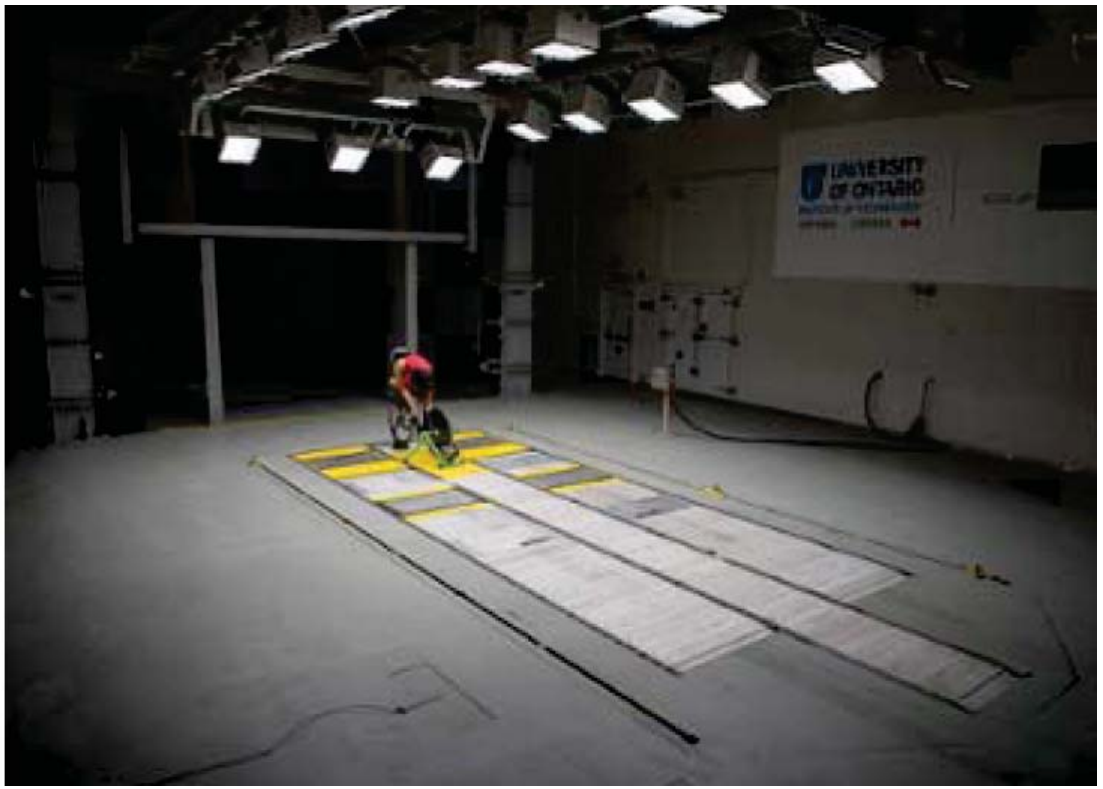
NEXT STEPS:

Project close out by March 31, 2022.

SUPPORTING REFERENCE MATERIALS:

ACE MGP update – December 2021

ACE Enhancement Project



December Project Update

6 January 2022

OntarioTech UNIVERSITY

Turner & Townsend

Progress Update (31 December 2021)

This period accomplishment:

- Control integration and commissioning fine tuning and minor adjustments

BoG – Schedule Approval Tracking

Milestones	Nov-18	Nov-19	Apr-21	Actual	Variance Explanation
Building Modification	Jul-19	Aug-19	Aug-19	Aug-19	
Integration Phase I	Dec-19	Mar-20	Mar-21	Mar-21	delayed contract signing & increased turntable upgrades
Integration Phase II	Mar-20	Sep-20	Sep-21		increased engineering requirements

Upcoming Activities

	Description	Begin Date	End Date	Act Begin	Act End	Comments
Phase I	Assembly & functional operation	3-Feb-21	14-Mar-21	15-Feb-21	18-Mar-21	Moved to virtual installation. Late start has no delay on end date
Phase II A	Systems check & validation	3-May-21	21-May-21	10-May-21	14-Aug-21	Assembly completed and base/support system functioning
Phase II B	Controls integration & debug	21-Jun-21	31-Jul-21	14-Jun-21		Fine tuning still on going, target completion Jan/ Feb shutdown
Phase III	Commissioning/Acceptance	1-Aug-21	7-Aug-21			March

Health & Safety:

- Nothing to report this period

Change Control:

- Nothing to report this period

Procurement Summary:

- Nothing to report this period

Financial Summary:

- Total Actual Cash Flow to date $16.095M
- Project estimated cost at completion $16.525M
- Cash flow Breakdown of Sources and Uses of funds next slide.

A&F Roll up Financial Report as of 31 December 2021

Sources of Funds - Cash Flow

Description	2019 Nov Funding	Actual Total Todate	Dec 2021	Funding at Completion	Balance Funding To date	Comments
		.				
FEDDEV	$ 9,465,000	$ 9,228,383	$ -	$ 9,465,000	$ 236,617	2.5% yet to received on project completion
PROVINCIAL	$ 1,500,000	$ 1,350,000	$ -	$ 1,500,000	$ 150,000	10% to be released upon project completion
MAGNA	$ 1,000,000	$ 1,000,000	$ -	$ 1,000,000	$ -	commitment fulfilled
ONTARIO TECH (Announce Contribution)	$ 500,000	$ 500,000	$ -	$ 500,000	$ -	commitment fulfilled
ONTARIO TECH (Loan to ACE)	$ 2,510,000	$ 2,510,000	$ -	$ 2,510,000	$ -	commitment fulfilled
THE GREENBRIAR FOUNDATION	$ 100,000	$ 100,000	$ -	$ 100,000	$ -	commitment fulfilled
GA HAYBALL FOUNDATION		$ 225,000	$ -	$ 225,000	$ -	commitment fulfilled
ACE INTERNAL (ERF/Research Fund)		$ 165,000	$ -	$ 165,000	$ -	commitment fulfilled
ONTARIO TECH (Additional Loan to ACE)		$ 1,016,644	$ 161,007	$ 1,060,595	$ 43,951	
Totals	$ 15,075,000	$ 16,095,027	$ 161,007	$ 16,525,595	$ 430,568	

Uses of Funds - Cash Flow

Description	Original Budget	Actual Total Todate	Dec 2021	Estimate at Completion**	Variance / Cost Increase	Variance Explanation
Moving Ground Plane Integration into CWT	$ 3,350,000	$ 6,012,444	$ 159,675	$ 6,413,396	$ 3,063,396	Obsolete controls, more complex turntable integration design and build. Repair to MGP & Turntable modifications.
Aerodynamic Enhancements Required for MGP	$ 2,540,000	$ 2,347,729	$ 211	$ 2,347,729	$ (192,271)	Value engineered design - ride height simplification
Acoustics	$ 845,000	$ 714,289	$ 473	$ 714,289	$ (130,711)	Competitive market & covid impact from Germany
Precision Measurement Capability	$ 1,850,000	$ 1,091,207	$ -	$ 1,091,207	$ (758,793)	In-house design and build
Chamber Modifications	$ 630,000	$ 707,552	$ -	$ 713,848	$ 83,848	System requires more process air and vacuum
Base Building Modifications	$ 3,645,000	$ 3,423,370	$ -	$ 3,423,337	$ (221,663)	Competitive market and deletion of Storage Building
Engineering and Project Management	$ 2,000,000	$ 1,798,436	$ 649	$ 1,821,790	$ (178,210)	Re-engineering, contigency amount move to MGP Integration, 12 mos extension of Project team
				$ -		
Totals	$ 14,860,000	$ 16,095,027	$ 161,007	$ 16,525,595	$ 1,665,595	

BOARD REPORT

SESSION:		**ACTION REQUESTED:**	
Public	☒	**Decision**	☐
Non-Public	☐	**Discussion/Direction**	☐
		Information	☒
Financial Impact	☐ Yes ☒ No	**Included in Budget**	☒ Yes ☐ No

TO: **Board of Governors**

DATE: **March 10, 2022**

PRESENTED BY: **Les Jacobs, VP, Research and Innovation**

SUBJECT: **Autonomous Vehicle Innovation Network (AVIN) Update**

COMMITTEE/BOARD MANDATE:

In accordance with its Terms of Reference, S&P is responsible for overseeing the strategic planning for all aspects of the university and assessment of the implementation of the university's plans in the context of the university's vision, mission and values. This includes oversight of significant projects.

We are providing the Board with an update on the status of the AVIN Program at Ontario Tech University

BACKGROUND/CONTEXT & RATIONALE:

Announced in the 2017 Ontario Budget, AVIN is an $80-million, five-year investment, delivered by OCE to support Ontario's continued leadership in Autonomous Vehicle Innovation.

The AVIN program is proceeding as planned. All of the planned infrastructure investments were completed in calendar year 2019.

Investments in new Autonomous Vehicle R&D Capabilities through $5M in AVIN Funding for Technology Development Site:
Infrastructure

- EV Charging/Microgrid Test Bed
- Simulated Automotive Wireless Environment
- Software Validation and Certification
- Data Storage, Real Time Analysis and Visualization
- Fabrication Space
- ACE Innovation Garage

Services
- Business and Technical Advisory Services
- Programming for Entrepreneurs and SMEs
- Full time technical staff

The project remains on track to meet the forecast budget ("Services") for the remaining year of the AVIN project which concludes March 31, 2022.

The Province announced the launch of a new program called the Ontario Vehicle Innovation Network (OVIN) to replace AVIN in their most recent budget announcements. The university is currently in conversations with the Ontario Centre of Innovation about our role in OVIN, which launches in April 2022.

RESOURCES REQUIRED:

No additional resources required. We will closely monitor any changes to each project due to COVID restrictions.

CONSULTATION:

Ongoing consultations take place with ACE Management, VP Research and Innovation, partners in AVIN's Durham activities (SPARK Centre and Durham College) along with the Ontario Centre of Innovation, which administers the AVIN funding program.

NEXT STEPS:

An update will be provided at the next meeting of S&P.

SUPPORTING REFERENCE MATERIALS:
- None attached for this update

BOARD REPORT

SESSION:		**ACTION REQUESTED:**	
Public	☒	**Decision**	☐
Non-Public	☐	**Discussion/Direction**	☐
		Information	☒

Financial Impact ☐ **Yes** ☒ **No** **Included in Budget** ☒ **Yes** ☐ **No**

TO: **Board of Governors**

DATE: **March 10, 2022**

FROM: **Jamie Bruno, Chief Transformation Officer**

SUBJECT: **Pension Governance Review Findings Report**

COMMITTEE MANDATE

In accordance with GNHR's Terms of Reference, the committee is responsible for oversight of the university's human resources policies, strategies and plans, including the university's pension plan (Plan).

The Senior Administration Sub-Committee (SASC) is a sub-committee of the Senior Leadership Team. The SASC exercises overall responsibility for the proper administration of the Plan and administration and investment of the Fund. As set out in its Terms of Reference, SASC is responsible for ensuring that the appropriate policies for the governance of the Plan and Fund are in place and reports to GNHR as necessary or required.

The SASC is providing an update to GNHR on the results of a pension plan governance review in order to help GNHR fulfill its mandate of overseeing the university's pension plan.

BACKGROUND & RATIONALE:

In spring 2021, the University initiated an external compliance review of the pension plan governance framework and our current practices versus the Canadian Association of Pension Supervisory Authorities (CAPSA) governance guidelines.

The University retained McCarthy Tetrault to collect and review the University's current decision-making and governance practices as it applies to the Registered Retirement Plan (the "Plan") for employees at Ontario Tech and to analyze these practices in light of industry best practices.

The previous Governance Review was presented to GNHR in 2014 with a promise to review the plan after five years, which is best practice. In light of COVID pandemic, we extended the timeframe slightly to summer 2021.

The overall assessment and findings were:

- The University's pension governance is very strong and consistent with best practices.
- The Plan governance structure is generally sound and does not contain gaps or overlaps.
- Ontario Tech University has done an "excellent job of setting up an effective and appropriate pension governance system that addresses its fiduciary duties under the Pension Benefits Act and also responds to many of the Principles in the CAPSA Governance Guidelines".
- In addition, the fiduciary governance framework addresses its legal and regulatory responsibilities in an effective, prudent and pro-active manner.

SUPPORTING REFERENCE MATERIALS:

- Pension Findings Report - Presentation

OntarioTech UNIVERSITY

Pension Findings Report

GNHR – January 27, 2022

Objective

The purpose of this Pension Findings Report is to:

- provide an overview of the analysis and methodology used by McCarthy Tetrault;
- share a summary of the assessment and findings presented;
- identify the recommendations provided, and;
- recognize progress to date to address these recommendations and highlight any outstanding recommendations not yet completed.

Executive Summary of the Pension Review

- In spring 2021, the University initiated an external compliance review of the pension plan governance framework and our current practices versus the Canadian Association of Pension Supervisory Authorities (CAPSA) governance guidelines.
- The University retained McCarthy Tetrault to collect and review the University's current decision-making and governance practices as it applies to the Registered Retirement Plan (the "Plan") for employees at Ontario Tech and to analyze these practices in light of industry best practices.
- The review concluded that the University has done an "excellent job of setting up an effective and appropriate pension governance system" and the fiduciary governance framework "has addressed its legal and regulatory responsibilities in an effective, prudent and pro-active manner".

Overview of Pension Review Methodology

- The scope of the external review and analysis included the following:

  - A review of specified Plan documents relevant to governance;
  - An examination of the Plan's governance organizational chart and related role and responsibility documents;
  - A review of the Plan in the context of governance best practices;
  - An analysis of findings in light of the documentation presented and consideration for that documentation in relation to other pension fund clients;
  - A summary and presentation of findings.

Component Reviewed:	Review Process:	Overall Assessment:	
Governance Structure	Reviewed Plan governance structure against key principles.	✓	The University has done an excellent job of setting up an effective pension governance system that addresses PBA and CAPSA Governance Guidelines.
Legislative Compliance	Reviewed Plan against pension legislation and regulations applicable to the Plan	✓	The GNHR Annual Report on Plan compliance noted no compliance issues for 2020.
Funding	Reviewed funding provisions of Plan against pension legislation/regulations applicable to the Plan	✓	No issues with funding model were identified.
Performance of Board and Governance of Delegates	Reviewed performance management against governance policy, legislative requirements, and industry guidelines	✓	The documents identified appropriate self-assessment and review.
Investment of the Pension Fund	Review policies and compliance with PBA, YTA and Cap guidelines.	✓	Regular investment monitoring takes place.
Performance of staff and third-party service providers	Reviewed performance against policy, legislation and industry guidelines	✓	Board checklists were reviewed and meet expectations.

Overall Assessment and Findings

- The University's pension governance is very strong and consistent with best practices.
- The Plan governance structure is generally sound and does not contain gaps or overlaps.
- Ontario Tech University has done an "excellent job of setting up an effective and appropriate pension governance system that addresses its fiduciary duties under the Pension Benefits Act and also responds to many of the Principles in the CAPSA Governance Guidelines".
- In addition, the fiduciary governance framework addresses its legal and regulatory responsibilities in an effective, prudent and pro-active manner.

Recommendations

- While assessment and findings confirmed a sound administrative and governance structure for the University Defined Contribution Plan, a series of recommendations to enhance the overall plan framework were provided.

Recommendation	Status:
Develop and introduce an annual performance review/self-evaluation process	Completed as part of Annual Governance Review Checklists
Identifying when the entity is exercising administrative functions versus when it is exercising sponsor functions	Completed as part of Annual Governance Review Checklists
Marking the date of preparation or adoption and/or revision on all materials	Completed as part of Annual Governance Review Checklists
Ensure pension governance needs are taken into account during the formulation of corporate governance policies and procedures	Completed as part of Annual Governance Review Checklists
Develop a Service Provider Selection and Review Policy	Completed as per the Procurement of Goods and Services Policy
Ensure that key issues are addressed and communication delivered directly to members via email and by letter post	Completed as part of Annual Governance Review Checklists

Recommendation	Status:
Ensure members understand who they can contact with questions, and also to whom they can escalate if their concerns are not addressed	Included as part of all communication materials
Review of the Plan website content or structure in regard to how information is made available to members	Completed on an annual basis and ad-hoc
Develop and introduce a standardized orientation process for new members	Completed and provided for new P&B Committee members
Develop and introduce education sessions	Completed – Sun Life provides education sessions in the Spring and Fall
Consider adopting these policies in keeping with FSRA policies A300-200 and A300-450	Compliant as per Records Classification and Retention Schedule
Risk Management Policy	Pension governance forms part of the University's Annual Risk Registry
Pension governance program would benefit from integration with corporate governance and risk management	Included as part of annual consultation with Risk Management Office

Recommendation	Status:
Develop Terms of Reference	Board to approve Terms of Reference for spring 2022
Creating an electronic governance resource	HR Action item for summer 2022

Current Practice – no change

- Ontario Tech has decided not to make changes for the following:
  - Developing a standardized succession policy and a robust skills matrix for Board Members
  - A matrix is already in development and will be forwarded to the USGC Office as part of an overall skills matrix review in March 2022