



ACADEMIC COUNCIL MEETING
Academic Council

AGENDA

Date: May 26, 2026

Time: 2:30 p.m. - 4:30 p.m.

[Zoom Videoconference Link](#) (registration required)

AC Meeting Schedule and Materials 2025-2026

No.		Topic	Lead	Suggested Start Time
PUBLIC SESSION				
1.		Call to Order and Land Acknowledgement	Chair	2:30 p.m.
2.		Agenda (M)		
3.		Chair's Remarks		
4.		Inquiries and Communications	Chair	2:40 p.m.
	4.1	COU Academic Colleague Report* (I)	R. Ruttenberg-Rozen	2:45 p.m.
5.		Provost's Remarks	L. Livingston	2:55 p.m.
	5.1	Senior Academic Administrator Search Update (I)		
6.		Academic Programs Update		
	6.1	2025-2026 Continuous Learning Annual Report* (I)	L. Livingston	3:00 p.m.
	6.2	2025-2026 Quality Assurance Annual Report* (I)	L. Livingston S. Thrush	
7.		2026-2027 Activity Based Budget Model* (I)	L. Livingston B. MacIsaac S. Thrush	3:15 p.m.
8.		Undergraduate Studies Committee	M. Bluehardt	3:35 p.m.
	8.1	New Program Proposal: Faculty of Business and Information Technology: Bachelor of Business Analytics and Artificial Intelligence* (M)		

	8.2	New Program Proposal: Faculty of Engineering and Applied Science: Bachelor of Engineering (Hons), Artificial Intelligence Engineering* (M)		
9.		Graduate Studies Committee	P. Mirza-Babaei	3:55 p.m.
10.		Research Committee	L. Jacobs	4:00 p.m.
	10.1	Strategic Research Plan Annual Report* (I)		
11.		Policy Instruments		.
	11.1	Examination and Grading Policy Amendments* (M)	J. Stokes	4:15 p.m.
12.		Consent Agenda: (M)	Chair	4:25 p.m.
	12.1	Public Minutes of the April 28, 2026 Meeting* (M)		
	12.2	Conferral of Degrees – Spring/Summer 2026* (M)		
	12.3	Outstanding Thesis Award Amendments* (I)		
13.		Termination	Chair	4:30 p.m.

Sandra Grouette, Assistant University Secretary

The Academic Colleagues meeting for April 2026 took place on Tuesday evening April 14, Wednesday April 15, and Thursday April 16. There were three meetings in total.

April 14

The agenda of the first meeting included a presentation by Mark Daly, Chief AI Officer at Western University and Vice-Chair of the COU AI Task Force:

- Since everything is being disrupted what is the social function we now serve as professors.
 - What are the things we do that are robust against that level of change
- December 2025 represents an inflection point in the development of AI as AI products began being capable of self-improvement.
- To date, universities' brand has been that they are collections of knowledgeable people disseminating knowledge to students. With the rapid development of AI, the value proposition universities is being fundamentally challenged.
- Universities are complex systems but phase changes in complex systems do not happen how we want them to...
 - The changes to universities' research and teaching missions brought about by AI present an opportunity to focus on the credentialing and social functions that universities serve. Universities provide spaces for group problem-solving, clinical rotations, and are convenors for civil society, industry and commerce because they are perceived as neutral institutions that are accountable to the public.
- How do we fall back on what makes us, as universities, unique?
 - We credential
 - We reformat vs traditional teaching and learning
 - Experiential learning
 - Convening—we are trusted third parties bringing together partnerships
 - Accountability—humans want accountability that is human (which is what we bring to the table)
- Existential Threat vs. Tactical Response
 - Universities can play an important role in teaching students the value of carrying out work for themselves.
 - It is anticipated that white-collar work and some traditional careers will become vulnerable in an AI context. While it is important to acknowledge to students and the general population that the future is uncertain, AI has the potential to bring about positive social transformation, akin to the invention of the printing press.
 - It is critical to include students at the discussion and decision-making tables on AI adoption.
 - Humanities and performance and visual arts may be more prominent in an AI-enabled society as they require humanistic inquiry and engagement.

- A positive outcome of AI will be the reduction of disciplinary boundaries and promotion of transdisciplinary linkages; research of this nature will be accelerated as a result.
- There are a number of geopolitical and social implications associated with AI to be mindful of. It is controlled by a few corporations based primarily in California and its outputs replicate that worldview, thereby shaping global cognitive norms. In addition, AI gathers the most convenient information available, not the fully representative information.
- It is timely for universities to engage in strategic foresight and scenario planning with students, faculty, staff, researchers and communities to define the future purpose of universities.

April 15

The agenda of the second meeting included preparation for the third meeting with the exec heads and a discussion with Steve Orsini.

Preparation

We broke off into 5 groups:

Purpose and Survival of Universities in the Future

- Key question: What does a university become in a world where AI can outperform humans in many knowledge tasks?

Students, Pedagogy & Academic Freedom

- Key question: If AI can do the work, what are we actually teaching—and how do we preserve academic freedom while doing it?

Future Model (Under Pressure)

- Key question: Assume fewer students, less funding, and widespread AI. What does the university look like?

AI and the Transformation of University Research

- Key question: What is the role of the researcher in an AI-enabled world?

Human Core, Ethics & Society

- Key question: What must remain irreducibly human in university education—and how do we protect it?

I was in the Future Model Group.

These are the notes from this group:

“Assume fewer students, less funding, and widespread AI. What does the university look like?”

Based on our discussion, a summary includes:

1. From Efficiency to Humanity: A shift from efficiency toward humanity, where the future university is judged not by how many students it processes, but by how effectively it develops each individual.
2. From Content to Judgment and Reflexivity: An opportunity to broaden our educational mission by moving beyond a focus on content delivery to fostering the ability, judgment, and reflexivity needed to make informed decisions about how to use information.
3. Thoughtful Integration of AI: Exploration of how AI can be integrated thoughtfully and ethically into research and teaching to enhance the capacity to navigate, interpret, and apply knowledge responsibly. In teaching, this may require investment in AI-assisted online learning, either through in-house development or strategic outsourcing.
4. Transdisciplinary and Community-Engaged Partnerships: Strengthening transdisciplinary, community-engaged, and relational partnerships to address complex “wicked problems,” with an emphasis on collective impact through experiential learning, applied research, and meaningful, internship-based engagement with society.

Reflecting on the question — *what does the university look like?* — leads to a deeper consideration of our core value. The future university may need to be anchored in humanity, relationships, partnerships, and a commitment to deep, meaningful learning that contributes to society.

Steve Orsini Talk Notes:

- The government’s funding and tuition announcements, which will provide significant support for the sector, and the continued importance of seeking greater efficiencies.
- A recent meeting with the Premier and Minister of Colleges, Universities, Research Excellence and Security, attended by the COU Chair, Vice-Chair and President.
- Forthcoming changes to teacher education programming, brought forward by way of Bill 101, *Putting Student Achievement First Act, 2026*, and COU’s activities in support of implementation.
- The results of a joint MCURES-COU survey on university research and commercialization activity highlighting the critical role that universities play in research and innovation.

ACADEMIC COUNCIL REPORT

SESSION:

Public

☒

Non-Public

☐**ACTION REQUESTED:**

Decision

☐Discussion/Direction
Information☐☒**TO:**

Academic Council

DATE:

May 26, 2026

PRESENTED BY:

Dr. Lori Livingston, Provost and Vice-President Academic
Sarah Thrush, Associate Vice-President Planning and Strategic
Analysis

SUBJECT:

2025-2026 Continuous Learning Annual Report

BACKGROUND/CONTEXT & RATIONALE:

As part of the annual reporting process, Continuous Learning provides an annual report to Academic Council and the Board for information that provides a summary of the program offerings, enrolments in programs as well as major activities to expand professional development program offerings.

The Micro-credentials and Continuous Learning Committee annual report to Board Strategy and Planning is included in this package.

IMPLICATIONS:

This is an annual report that is reported to Academic Council and the Board for information.

ALIGNMENT WITH MISSION, VISION, VALUES & STRATEGIC PLAN:

As Continuous Learning expands its program offerings and partnerships, we can provide the community with more flexible and accessible training options while also generating alternative sources of revenue for the University. Our programming and outreach specifically align with the Learning Re-imagined and Partnerships priorities of the IARP as well as the differentiated growth strategy.

SUPPORTING REFERENCE MATERIALS:

- Continuous Learning Annual Report 2025-2026

Continuous Learning Annual Report

2025-2026

Reporting period: April 1, 2025 to March 31, 2026

1,334 Open enrollment registrations	1,231 Corporate training registrations	15 Corporate training contracts	1,944 Summer camp registrations
Major 2025-2026 activity included the Nuclear Career Accelerator, new nuclear and cybersecurity programming, expanded corporate training, Ontario Shores micro-credential transition, and continued growth in summer camps.			

Prepared by: Continuous Learning

Ontario Tech University

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Appendices are summary-level and are intended for Board reporting. Detailed operational data remain in the internal master spreadsheet.

Background

Established in 2019, Ontario Tech University's Continuous Learning Department is the hub for not-for-credit and non-degree programming. The Department works with Faculties across campus to build a growing suite of flexible learning options (e.g. certificate programs, micro-credentials, stackable credentials) and other learning opportunities that support lifelong learning.

Continuous Learning promotes and facilitates flexible and dynamic non-degree learning initiatives independently and in collaboration with Faculties that align with the university's strategic priorities of re-imagining learning, developing partnerships, and differentiated growth.

In 2025-2026, Continuous Learning had a significant year of growth and program development, supported in part by the Upskills Canada Palette grant for the Nuclear Career Accelerator (NCA). Major activities included delivery and expansion of the NCA, development of Nuclear Project Management (NPM) and Cybersecurity for Energy programming, transition and approval of 26 Ontario Shores mental health micro-credentials, and continued development of the KW program. The following sections outline a summary of the 2025-26 continuous learning activities.

2025-2026 Activity

Continuous Learning Growth 2022-2023 through 2025-2026

Area	2022-2023	2023-2024	2024-2025	2025-2026
Open Enrollment Registrations	296	561	782	1,334
Corporate Training Contracts	8	8	12	15
Corporate Training Registrations	-	-	-	1,231
Summer Camps Registrations	1,281	1,706	1,912	1,944

From April 2025 to March 2026, Continuous Learning continued to experience significant growth across open enrollment, corporate training, and summer camps activity. Open enrollment registrations increased from 782 in 2024-2025 to 1,334 in 2025-2026, representing a 70.6% increase. Corporate training activity also expanded, with 15 corporate training contracts, a 25.0% increase over the previous year. Continuous Learning also began tracking corporate training registrations as a separate metric in 2025-2026, recording 1,231 registrations. Summer Camps remained strong, increasing from 1,912 registrations in 2024 to 1,944 registrations in 2025.

Open Enrolment

From April 2025 to March 2026, Continuous Learning recorded 1,334 open enrollment registrations. This growth reflects strong learner demand across several areas, including nuclear, AI, education, health, and professional development programming.

Corporate Training

Ontario Tech's Continuous Learning unit continued to strengthen and expand partnerships with industry, community, health care, education and government partners. In 2025-2026, corporate training activity expanded to 15 contracts and 1,231 registrations. Corporate training registrations are being reported as a new metric this year; as a result, year-over-year registration comparisons are not yet available.

New Agreement/Clients

- Ontario Power Generation - custom course suite
- Ontario Power Generation - Advanced Operations Overview for Managers (AOOM)
- Grandview Kids - Leadership of Excellence Program and Lean White Belt sessions
- Ontario Shores - Leadership Excellence Program
- Regional Municipality of Durham - Leadership Excellence Program cohorts and Master's Certificate in Public Sector Management seats
- City of Oshawa - Leadership Excellence Program, stand-alone Introduction to Generative AI, and Master's Certificate in Public Sector Management seats
- Municipality of Port Hope - Leadership Excellence Program
- City of Pickering - Leadership Program and Change Management for Leaders
- Municipality of Clarington - Leadership Program
- Fidelity Canada - Generative AI for Leaders Program
- Trillium Lakelands District School Board

Business Development - New Partnership Programs

Corporate training growth in 2025-2026 was driven by repeat partnerships and new sector relationships. The year included continued demand for municipal leadership development, expanded work with Ontario Power Generation, the launch of AI-focused corporate training with Fidelity Canada and the City of Oshawa, and additional public-sector training with partners such as the City of Pickering, Municipality of Clarington and Trillium Lakelands District School Board.

Strategic Partnership and Program Transition Activity

Continuous Learning also expanded its role in partnership-based program development and delivery. The department received a contract with KW Habilitation to build seven Operational Leadership micro-credentials. These micro-credentials support leadership development in the developmental services sector and build on the department's growing portfolio of applied, workplace-focused programming.

Continuous Learning successfully transitioned 26 Ontario Shores mental health micro-credentials from the Ontario Tech Talent organization into the department's portfolio and signed a memorandum of understanding to continue working with Ontario Shores to offer these courses to its staff. The department also assumed responsibility for a contract with Participation House Durham to offer developmental services courses.

This activity reflects a stronger corporate training pipeline and a broader mix of leadership, AI, nuclear, public-sector, health, developmental services, and organizational development offerings. The introduction of corporate training registrations as a metric will also allow Continuous Learning to report more clearly on training volume in future annual reports.

Summer Camps

The Summer Camps program, offered in partnership with the Fraser Faculty of Education and the Faculty of Engineering and Applied Sciences, provides fun, hands-on opportunities for kids, ages six to seventeen, to learn and explore their curiosity. This STEM-based program runs annually for eight consecutive weeks, from July to August. The program makes meaningful connections with many students, staff and alumni community members, and highlights Ontario Tech as a great place to study – and play. The 2025 Summer Camps program recorded 1,944 camper registrations (non-unique), a slight increase over the previous summer, despite the 7-week schedule required by the mid-week Canada Day – compared to 8 weeks in normal summers.

2025 Summer Camp Offerings by Camp Type

Total Camps Offered	Unique Offerings
55	40

Continuous Learning Development Initiatives

Upskills Canada Palette Grant: Nuclear Career Accelerator Program

The Nuclear Career Accelerator (NCA) Program was a major 2025-2026 development initiative for Continuous Learning and one of the most significant outcomes of the Upskills Canada Palette grant. The grant-funded registration period generated substantial demand, with more than 1,000 applications from learners interested in transitioning into the nuclear sector.

Continuous Learning accepted 270 learners into the grant funded NCA Program in 2025-2026, with extremely high completion and learner satisfaction rates. The program supported mid-career technical professionals and engineers by combining practical nuclear-sector learning, employer-informed micro-credentials, and career transition supports.

With the support of Co-operative Education, Experiential Learning and Career Development (CEELCD), the program provided significant career supports and tracked positive employment outcomes for learners. Career development activities included individual support, employer engagement, and opportunities for learners to connect directly with nuclear-sector organizations.

Employer engagement was a key strength of the program. Continuous Learning and CEELCD hosted two nuclear networking nights with more than 120 learners in attendance, delivered industry lunch-and-learn sessions, and promoted the program through sector outreach, including at the Canadian Nuclear Association event.

By the end of the reporting period, Continuous Learning had also prepared the NCA Program for a non-funded launch, positioning the program to continue beyond the initial grant-funded delivery model and to support ongoing nuclear workforce development needs.

Micro-credentials and Continuous Learning Committee (MCLC) Report

The Micro-credentials and Continuous Learning Committee supports the review and approval of an increasingly diversified suite of non-degree programs, courses, certificate programs, and micro-credentials. In 2025-2026, the Committee continued to support the expansion of Continuous Learning programming through approvals connected to healthcare, developmental services, mental health, nuclear and energy, cybersecurity, artificial intelligence, leadership, and space-sector learning.

The Committee also continued to support process improvement for micro-credential and non-credit offering approvals. Continuous Learning used the approved quality assurance approach and Curriculog-based review process to manage submissions and present program information for Committee review.

Committee Activity

The Micro-credentials and Continuous Learning Committee meets as needed. Between April 1, 2025, and March 31, 2026, the Committee reviewed and approved new programs, certificate programs, courses, and micro-credentials to support the continued growth of Ontario Tech's Continuous Learning portfolio.

New Program and Certificate Program Approvals

1. 6 STEPS Pipeline Micro-credentials: Introduction to Healthcare Simulation
2. AI Essentials for Lifelong Learners Certificate of Completion
3. AI Integrated Cybersecurity University Certificate
4. Foundations of Space and Cybersecurity University Certificate Program
5. Operational Leadership in Developmental Services University Certificate Program
6. Nuclear Career Accelerator Certificate Program and Micro-credentials
7. Nuclear Project Management Micro-credential Program
8. Ontario Shores - Mental Health Micro-credentials

Operational Leadership in Developmental Services approved courses:

1. Transition to Operational Leadership
2. Time Management in Operational Leadership
3. Financial Literacy
4. Building High-Performing Teams
5. Supervision and Performance Evaluation
6. Conflict Management
7. Change Management

Nuclear Career Accelerator approved micro-credentials:

1. Nuclear Fundamentals
2. Operations Overview
3. Regulations and Safety
4. Nuclear in Society
5. Life Cycle Assessment
6. Materials & Fuels
7. Nuclear Supply Chain

8. Nuclear Project Management Fundamentals
9. Next Generation Nuclear
10. Waste Management

New Micro-credential Approvals

The Committee approved several additional micro-credential groups, including healthcare, mental health, developmental services, nuclear and energy, cybersecurity, digital skills, data analysis, project management, and workforce development offerings.

Digital Skills Micro-credentials for Healthcare Professionals:

1. Digital Technology Foundations (Digital Basics in Care)
2. Digital Technology for Good (Digital Communication & Ethics)
3. Data and Digital Technology
4. Digital Technology in Complex Systems (Navigating Complexity)
5. Frontline Digital Leadership

Ontario Shores Mental Health Micro-credentials:

1. Dual Diagnosis for Clinicians in Mental Health
2. Trauma Informed Care
3. Mental Health Pharmacology
4. Mental Status Assessment
5. Common Mental Illnesses: Assessment and Documentation
6. Addictions & Concurrent Disorders: Motivational Interviewing (MI)
7. Cognitive Behavioral Therapy
8. Suicide Prevention: Risk Assessment and Intervention
9. Crisis Prevention, De-escalation and Debriefing in Mental Health
10. Mental Health Law: Health Teaching and Decision-Making
11. Behavioural Interventions in Mental Health
12. Delirium, Depression, and Dementia in Older Adults
13. Personality Disorders
14. Mastering Clinical Documentation: Strategies for Nurses and Allied Health
15. Forensics in Mental Health
16. Dialectical Behavior Therapy
17. Promoting Self-Care and Resilience
18. Psychological and Cultural Safety
19. Recovery in Mental Health
20. Ethical Decision-Making in Mental Health
21. Therapeutic Communication, Relationships and Boundaries
22. Building Inclusive and Equitable Practices within Mental Health
23. Adolescents And Mental Health Interventions

Micro-credentials in Change and Project Management for Nurses and Allied Health Professionals:

1. Change Management Monitoring
2. Managing Resistance to Change
3. Change Management Methodologies
4. Project Charter
5. Project Selection
6. Project Management Methodologies
7. Agile Project Initiation

Data Analysis and Project Management Micro-credentials for Energy Professionals:

1. Energy Project Management Fundamentals
2. Descriptive and Diagnostic Data Analytics in Energy with Excel
3. Data Visualization with Excel for Energy
4. Power BI for Data Energy Insights
5. Descriptive and Diagnostic Data Analytics in Energy with Python
6. Core Project Management Skills for Energy Professionals

Micro-credentials on Data Analysis and Reporting for Allied Health Professionals:

1. Microsoft Excel Fundamentals I
2. Microsoft Excel Fundamentals II
3. Data Visualization with Excel
4. Dashboards and Quality Improvement Metrics with Excel
5. Data Reporting
6. Quality Improvement in Healthcare Data Analytics: Process Mapping
7. Quality Improvement in Healthcare Data Analytics: Root Cause Analysis
8. Quality Improvement in Healthcare Data Analytics: Future State Development
9. Quality Improvement in Healthcare Data Analytics: PDSA Quality Model

Cybersecurity for Energy Micro-credentials:

1. Cybersecurity for Energy: Security Gap Assessment
2. Cybersecurity for Energy: Incident Reporting & Response in Energy
3. Cybersecurity for Energy: Vulnerability Assessment in Energy

Micro-credentials Designed in Partnership with Participation House Durham:

1. Dual Diagnosis for Direct Support Professionals
2. Crisis Prevention, De-escalation, and Debriefing in Developmental Services
3. Suicide Interventions in Developmental Services
4. Personality & Mood Disorders in Developmental Services
5. Transition from Clinical to Community Living in Developmental Services
6. Fostering Trust and Psychological Safety in Developmental Services
7. Trauma-Informed Care for Developmental Services

1. Addictions & Concurrent Disorders in Developmental Services
2. Mental Status Assessment in Developmental Services
3. Mental Health Law in Developmental Services

Summary

The 2025-26 year marked significant capacity building in Continuous Learning as well as new program offerings and enrolment growth. Continuous Learning plays a critical role in addressing the needs of non-traditional learners to up-skill, re-skill or develop new skills to meet the evolving needs of the labour force. Continuous Learning looks forward to developing innovative programs in partnership with internal and external partners that will provide bridges for students to new career opportunities as well as pathways to degree programs in the future as part of the universities differentiated growth plans.

The following appendices provide details of the 2025-2026 Continuous Learning activity, including activity volume, portfolio areas, corporate training and strategic partnerships, new program and micro-credential development, and summer camps.

APPENDIX A: 2025-2026 Activity Summary

This appendix summarizes Continuous Learning activity for the 2025-2026.

Measure	2025-2026 activity	Board-level significance
Open enrollment registrations	1,334	Increase from 782 in 2024-2025, representing 70.6% growth.
Corporate training contracts	15	Increase from 12 in 2024-2025, representing 25.0% growth.
Corporate training registrations	1,231	New metric introduced in 2025-2026 to better capture custom and contract training volume.
Summer camps registrations	1,944	Continued high-volume community engagement through child and youth programming.
Nuclear Career Accelerator learners	270	Grant-funded learners supported through a flagship workforce transition program.
Nuclear Career Accelerator applications	Over 1,000	Strong market demand for nuclear workforce development programming.
MCLC-approved activity	Multiple programs, certificates, and micro-credential groups	Expanded the approved non-credit portfolio in nuclear, AI, cybersecurity, health, mental health, developmental services, and healthcare simulation.

APPENDIX B: Activity by Portfolio

The following portfolio summary groups 2025-2026 activity into strategic areas.

Portfolio area	Selected 2025-2026 activity	What this demonstrates
Business, leadership, and AI	Leadership and Management Essentials; Strategic and Innovative Leadership; Master's Certificate in Public Sector Management; Digital Marketing; AI Essentials for Lifelong Learners; Generative AI for Leaders custom programs.	Continued demand for leadership development, public-sector training, and practical AI adoption programming.
Education	AQ/ABQ courses; AI for Teaching and Learning; Introduction to Higher Education Management; AI-related professional development for educators.	Continued strength in educator-focused professional learning and AI-enabled teaching and learning.
Health, mental health, and developmental services	Type 1 Diabetes Educator; Healthcare Provider CPR; Digital Skills for Healthcare Professionals; Ontario Shores mental health micro-credentials; KW Habilitation Operational Leadership; Participation House Durham developmental services micro-credentials.	Expanded role in health-sector, mental-health, and developmental-services workforce development.
Nuclear and energy	Nuclear Career Accelerator; Advanced Operations Overview for Managers; Nuclear Project Management; Cybersecurity for Energy; energy-focused data and project management micro-credentials.	Positioning of Continuous Learning as a key contributor to nuclear and energy workforce development.
Science and forensics	Fingerprint Analysis, Distortion and Evaluation; Quantitative Analysis for Environmental Professionals; forensic and applied science offerings.	Continued development of specialized applied science and professional practice programming.
Child and youth	Summer Camps, youth safety courses, STEM, coding, engineering, robotics, LEGO/maker, science, and Indigenous-focused programming.	Large-scale community engagement and early exposure to Ontario Tech learning pathways.

APPENDIX C: Corporate Training and Strategic Partnerships

Corporate training continued to expand in 2025-2026.

Client / partner	2025-2026 activity	Reporting note
City of Oshawa	Leadership Excellence Program, stand-alone Introduction to Generative AI, and Master's Certificate in Public Sector Management employees.	Continuing municipal leadership and AI training relationship.
City of Pickering	Leadership Program and Change Management for Leaders.	New or expanded municipal leadership relationship.
Fidelity Canada	Generative AI for Leaders Program.	New AI-focused corporate training relationship.
Grandview Kids	Leadership of Excellence Program.	Continuing / active corporate training relationship.
Grandview Kids	Lean White Belt sessions.	Additional corporate training activity.
KW Habilitation	Contract to build seven Operational Leadership micro-credentials.	New developmental-services program development contract.
Municipality of Clarington	Leadership Program.	New municipal leadership relationship.
Municipality of Port Hope	Leadership Excellence Program.	Continuing municipal leadership relationship.
Ontario Power Generation	Custom professional development course suite, including effective written communication, conflict resolution and negotiation, advanced stakeholder and change management, and advanced organizational development.	
Ontario Power Generation	Advanced Operations Overview for Managers (AOOM).	
Ontario Shores	Leadership Excellence Program.	Expanded relationship, alongside the mental health micro-credential transition and MOU.
Ontario Shores	Transitioned 26 mental health micro-credentials and signed an MOU to continue working together.	Major program transition and strategic health-sector partnership.
Participation House Durham	Transitioned contract to offer developmental-services micro-credentials.	Transitioned partnership and delivery activity.
Regional Municipality of Durham	Leadership Excellence Program cohorts and Master's Certificate in Public Sector Management employees.	Continuing and expanded public-sector leadership relationship.
Trillium Lakelands District School Board	Half-day custom training session.	New education-sector custom training activity.

APPENDIX D: New Program and Micro-credential Development

The Micro-credentials and Continuous Learning Committee approved a broad set of new programs, certificates, courses, and micro-credential groups between April 1, 2025, and March 31, 2026. The table below summarizes the development activity by strategic area.

Strategic area	Approved program or micro-credential activity
AI and cybersecurity	AI Essentials for Lifelong Learners Certificate of Completion; AI Integrated Cybersecurity University Certificate; Foundations of Space and Cybersecurity University Certificate Program.
Nuclear and energy	Nuclear Career Accelerator certificate program and micro-credentials; Nuclear Project Management Micro-credential Program; Cybersecurity for Energy micro-credentials; data analysis and project management micro-credentials for energy professionals.
Healthcare simulation and health workforce development	6 STEPS Pipeline Micro-credentials: Introduction to Healthcare Simulation; Digital Skills Micro-credentials for Healthcare Professionals; data analysis and reporting micro-credentials for allied health professionals; short micro-credentials in change and project management for nurses and allied health professionals.
Mental health	Ontario Shores mental health micro-credentials, including trauma informed care, mental health pharmacology, mental status assessment, cognitive behavioral therapy, suicide prevention, crisis prevention and de-escalation, mental health law, dialectical behavior therapy, recovery, ethical decision-making, and related topics.
Developmental services	Operational Leadership in Developmental Services University Certificate Program and seven related courses; Participation House Durham developmental-services micro-credentials.

APPENDIX E: Summer Camps Summary

Summer Camps remained one of Continuous Learning's largest community-facing activities in 2025. The appendix summarizes the program at a level appropriate for Board reporting rather than listing each camp instance.

Measure	2025 activity
Total registrations	1,944
Season	July to August 2025
Delivery model	Primarily in-person, with selected virtual offerings.
Program areas	STEM, coding, game design, engineering, robotics, LEGO/maker activities, science, STEAM, Indigenous-focused programming, and youth safety courses.
Strategic value	The program provides community engagement, youth outreach, and early exposure to Ontario Tech's learning environment.

ACADEMIC COUNCIL REPORT

SESSION:

Public

☒

Non-Public

☐**ACTION REQUESTED:**

Decision

☐

Discussion/Direction

☐

Information

☒**TO:**

Academic Council

DATE:

May 26, 2026

PRESENTED BY: Dr. Lori Livingston, Provost and Vice-President, Academic**SUBJECT:**2025-2026 Quality Assurance Annual Report

BACKGROUND/CONTEXT & RATIONALE:

As part of the annual reporting process, the Centre for Institutional Quality Enhancement (CIQE) provides an annual report to Academic Council and the Board for information that provides a snapshot of quality assurance frameworks and enhancements, academic program development, and a summary of the status of Ministry Program approvals of Ontario Tech programs.

The attached Quality Assurance Annual Report outlines the quality assurance process and activities that have occurred over the past year that align our internal Quality Assurance processes with the Province's Quality Assurance principles and Framework.

IMPLICATIONS:

This is an annual report that is reported to Academic Council and the Board for information.

ALIGNMENT WITH MISSION, VISION, VALUES & STRATEGIC PLAN:

Supporting program innovations, new programs, and cyclical program review processes ensures program quality at the University is in keeping with the priorities in the Integrated Academic and Research Plan.

SUPPORTING REFERENCE MATERIALS:

- 2025-2026 Quality Assurance Annual Report



Quality Assurance Annual Report

April 2025 – March 2026

Centre for Institutional Quality Enhancement (CIQE)

Introduction

Oversight for the implementation and administration of the quality assurance processes resides within the office of the Provost. The day-to-day management of these processes rests with the Centre for Institutional Quality Enhancement (CIQE). The CIQE office along with the Deans and academic units implement the procedures that are outlined by the Quality Council's [Quality Assurance Framework](#) (QAF) and Ontario Tech's [Institutional Quality Assurance Process](#) (IQAP).

The University continues to see significant development of new programs and program options in support of the Differentiated Growth strategy of the University. CIQE supports this strategy and the work of Faculties and Units as they develop innovative, flexible academic programs and course offerings. Through ongoing collaboration with institutional partners, CIQE has advanced continuous improvement by refining existing processes, developing new tools and resources, and promoting greater efficiency and transparency across program development and review. These efforts are complemented by CIQE's continued advocacy with the Quality Council to reduce administrative burden and expedite approval timelines for new academic programs, while maintaining rigorous internal quality standards essential to academic excellence and accountability.

This Quality Assurance Annual Report, submitted to Academic Council and the Board of Governors, provides a snapshot of Ontario Tech's quality frameworks, enhancement initiatives, academic program development, and the status of Ministry approvals from 1 April 2025 to 31 March 2026. The report situates institutional activities within broader sector trends that emphasize responsiveness to labour market demands, interdisciplinary and technology-driven education, and societal well-being. During the reporting period, new program approvals and modifications reflected a strong focus on areas such as artificial intelligence, applied technology and analytics, strategic management and leadership, and health and social advocacy. Cyclical Program Reviews and major program modifications continue to play a critical role in revitalizing academic offerings, ensuring programs remain relevant, effective, and responsive to the evolving postsecondary landscape.

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1 Internal University Processes

1.1 New Program Ideation and Notice of Intent

All new diploma and degree programs require a new program ideation meeting and Notice of Intent (NOI) to be submitted for approval by the Provost prior to development of a full program proposal. CIQE has coordinated this process which has helped ensure that key operational concerns and opportunities for efficiency are considered early in the development process, reducing the overall timeframes for program launch.

Program ideations were conducted with representation across all Faculties considering the development of a wide range of differentiated and collaborative new degree and diploma programs and enhancements to existing programs, with a particular focus on pathways between undergraduate, graduate, professional and research-based programs and opportunities to ladder credentials.

This reporting year, there were five new Notices of Intent submitted. Submission of the full new program proposal to Academic Council must be completed within two years of the NOI approval. Further information about the new program development process is available [here](#).

- BEng – Artificial Intelligence
- BEng – Civil Engineering
- GDip – Railway Engineering
- MSc – Molecular Diagnostics
- GDip – Advanced Automotive Engineering, Advanced Robotics, AI Engineering, Digital Transformation in Advanced Manufacturing, Energy Systems Engineering, Smart Grid Engineering *final names to be confirmed

1.2 Minor Curricular Changes

Minor curricular changes are changes at the course level only and may include the introduction of new courses. For the reporting timeframe there were a total of 339 minor curricular changes, these are provided by Faculty in Table 1.1 with a year-over-year comparison.

Table 1.1 Minor Curricular Changes by Faculty

Faculty	2023-2024	2024-2025	2025-2026
Faculty of Business and Information Technology	27	16	35
Frazer Faculty of Education	99	24	98
Faculty of Engineering and Applied Science	21	28	61
Faculty of Health Sciences	57	121	67
Faculty of Science	27	15	27
Faculty of Social Science and Humanities	300	44	51
Ontario Tech University	0	1	0
Total	531	249	339

This year, changes to course attributes such as prerequisites and lecture/lab contact hour allocations accounted for a significant portion of minor curricular changes submitted. These changes were submitted in support of program proposals aiming to improve clarity of program requirements, reduce administrative overhead, and increase flexibility and choice for students.

1.3 Minor Program Adjustments

Minor program adjustments impact overall program requirements but do not greatly impact the program's learning outcomes. These include the introduction of new required courses, deletion of required courses, editorial changes to degree requirements or program learning outcomes, or changes or additions to academic requirements. For the reporting timeframe there were 26 minor program adjustments, shown in Table 1.2.

Table 1.2 Minor Program Adjustments by Faculty

Faculty	2023-2024	2024-2025	2025-2026
Faculty of Business and Information Technology	7	4	3
Frazer Faculty of Education	3	2	1
Faculty of Engineering and Applied Science	7	10	11
Faculty of Health Sciences	6	4	3
Faculty of Science	2	3	3
Faculty of Social Sciences and Humanities	6	4	5
Total	31	27	26

2 External Approval Processes: The Ontario Universities Council on Quality Assurance (Quality Council) and the Ministry of Colleges, Universities, Research Excellence and Security (Ministry)

2.1 New Program Approvals

The new program approval process applies to both new undergraduate and graduate degree programs and is used to secure the academic standards of new programs and to assure their ongoing improvement. The Quality Council reviews new programs and has the final authority to approve or decline new programs. During the reporting year there were three new degree programs submitted to the Quality Council. Table 2.1 provides a list of the new degree programs submitted to and approved by the Quality Council during the reporting period. In addition to these, a Bachelor of Business Analytics and Artificial Intelligence and a Bachelor of Engineering in Artificial Intelligence Engineering were developed during the reporting cycle and will be submitted to the Quality Council in the spring of 2026.

Table 2.1 New Programs Submitted to the Quality Council

Program	Academic Council Approval Date	Quality Council Submission Date	Quality Council Approval Date
Master of Social Media Communication in Online Creators	Apr-25	Apr-25	May-25
BA- Educational Psychology	May-25	May-25	Jun-25
BScN – Second Entry	May-25	May-25	Jun-25

New programs approved by the Quality Council over the last year highlight a strong focus on applied, labour-market-aligned programs in areas such as data analytics, AI, cybersecurity, engineering, health sciences, and business. Programs increasingly embed experiential learning through co-ops, practicums, internships, and industry-engaged projects. There is also a clear movement toward interdisciplinary and

socially responsive education, integrating technical skills with broader societal considerations and advancing equity, inclusion, sustainability, Indigenous engagement, and community responsiveness.

Ontario Tech’s new BA in Educational Psychology, BScN – Second Entry, and Master of Social Media Communication in Online Creators programs help put us at the forefront of these sectoral trends and embody our mission of tech with a conscience and learning re-imagined.

Brief descriptions of all previously [approved programs](#) from the Quality Council can be found on the Quality Council’s website.

2.2 Expedited Reviews

The expedited review process applies to new graduate diplomas and may apply to new undergraduate diplomas. The Quality Council also requires this type of review when multiple new fields are added in a graduate program; they may also request an expedited review for other proposed major modifications of an existing program.

There were two programs submitted to the Quality Council for expedited review and approval during the annual reporting timeframe.

- Master of Business Analytics and Artificial Intelligence:** In late February 2026, an expedited review proposal was submitted in support of the programs’ creation of three new Fields – AI Governance, Supply Chain, and Entrepreneurship. The proposal was approved at its first review by the Quality Council Appraisal Committee in March.
- Graduate Diploma in Railway Engineering:** an expedited review proposal was submitted in late January 2026 for this new Type 3 diploma. Subsequent to multiple requests for additional information and revisions for clarity, the Appraisal Committee did approve the new Graduate Diploma in May 2026.

2.3 Major Modifications (Program Renewal and Significant Change)

Major program modifications result in substantive changes to the program’s nomenclature, requirements, and/or learning outcomes including significant changes to the learning outcomes, faculty engaged in the delivery of the program, or the addition of a new field to an existing graduate program. Table 2.2 below presents by Faculty all major modifications completed during the reporting period with a year-over-year comparison. A report of all major modifications is provided to the Quality Council annually in July.

Table 2.2 Major Modifications Governance Progress

Faculty	2023-2024	2024-2025	2025-2026
Faculty of Business and Information Technology	1	0	5
Frazer Faculty of Education	3	2	1
Faculty of Engineering and Applied Science	3	9	2
Faculty of Health Sciences	1	8	3
Faculty of Science	4	0	2
Faculty of Social Sciences and Humanities	4	11	9
Total	16	30	22

Major modifications this cycle establish a significant number of new program components and other changes that are expected to have a positive impact on student enrollment and retention, including

innovative specializations, minor programs, and pathways to and from community colleges and international universities. This year, a number of new AI-focused opportunities were added to programs across Faculties. Additionally, inter-Faculty collaboration has resulted in the development of new interdisciplinary options for students.

2.4 Submission to the Ministry

While a program can be offered once it has received approval from the Quality Council, receiving Ministry approval allows students taking these programs to be eligible for OSAP funding and allows the institution to report domestic students towards our enrolment grant corridor.

During the 2025-2026 reporting year, Ontario Tech continued its strong performance of program development and innovation, receiving approval for three innovative new programs (of a total of 18 programs approved across the province). Two programs submitted during the 2024-2025 reporting year were approved in Spring 2025.

Program	MTCU Submission Date	MTCU Approval Date
<i>PhD – Cybersecurity</i>	<i>Jan-25</i>	<i>Jun-25</i>
<i>BA Sociology, Technology and Innovation</i>	<i>Nov-24</i>	<i>Apr-25</i>
BScN – Second Entry	June-25	Pending Accreditation
Master of Social Media Communication in Online Creators	Jun-25	Oct-25
BA - Educational Psychology	Jun-25	Sept-25

Time to approval by the Ministry continues to be a challenge, sector-wide, with the average being 97 Provincial working days (typically 5-5.5 months). Factors such as external accreditation impact this time to approval, as the Ministry will not approve programs until accreditation is granted or expected, as is the case with the BScN – Second Entry program for which we expect accreditation approval in December 2026.

3 Continuous Improvement

3.1 Cyclical Program Reviews

As set by the Quality Council and the University IQAP, all existing undergraduate and graduate degree and diploma programs are subject to review once every eight years. The cyclical program review is a critical in-depth self-reflection on the program and follows an [internal timeframe](#).

Programs that have finalized their internal portions of the process and have now submitted their FAR and IP to University governance are listed below. Once all of the university governing bodies have been provided the report for information, an executive summary is then submitted to the Quality Council.

- Bachelor of Information Technology – Game Development and Interactive Media
- Bachelor of Science in Nursing
- Bachelor of Arts – Communication and Digital Media Studies

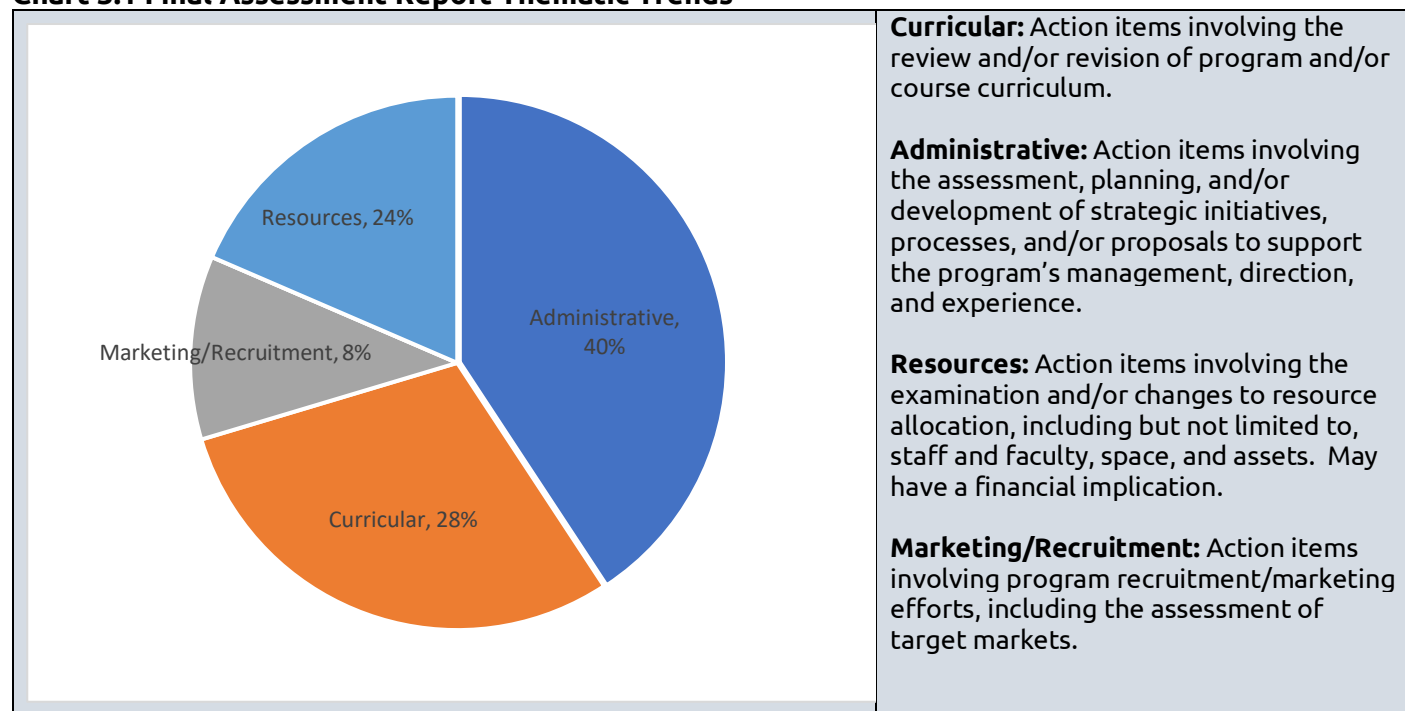
The following programs are scheduled to undergo a Program Review in the 2026-2028 cycle:

- Bachelor of Arts, Political Science

- Bachelor of Arts, Forensic Psychology
- Bachelor of Arts – Liberal Studies (name changed to General Arts and Science)
- Bachelor of Engineering – Nuclear Engineering
- PhD – Health Science
- Gdip – Workplace Disability
- Bachelor of Science – Forensic Science
- Bachelor of Arts- Educational Studies
- UG Diploma - Facilitating Adult Learning with Technology

CIQE reviews the FARs to determine if there are common themes which may be addressed centrally. A breakdown of the FAR thematic trends in the last few review cycles is outlined in Chart 3.1.

Chart 3.1 Final Assessment Report Thematic Trends



3.2 Continuous Improvement in CIQE

CIQE continues to refine processes and to leverage curriculum management systems to provide enhanced service and reporting to stakeholders across the institution. In addition to the Curricular Change report launched last year, CIQE, with support from the Office of Institutional Research and Analysis (OIRA), also successfully launched CPR and New Program tracking reports.

This past year, CIQE worked closely with the Teaching and Learning Centre (TLC) to refine its orientation and Program Learning Outcome Enhancement resources and moved to Google Classroom as its platform for completion of Program Review components. We also worked with Co-operative Education, Experiential Learning and Career Development (CEELCD) to begin a project to align core university competencies with our existing Learning Outcome and Degree Level Expectation program mapping.

CIQE also undertook an extensive review of all New Program and Program Review Templates, addressing some of the more cumbersome elements and providing additional guidance and support to program teams. This cycle, CIQE began discussions and a review of sector requirements to ensure our IQAP is current and updates are consistent with best practices and requirements. It is anticipated that a revised IQAP will be presented for approval during the next reporting cycle.

CIQE continues to work closely with IT Services, the Office of the Registrar, and our external vendors to explore additional integrations between our curricular management systems and the Student Information System (Banner).

These changes present new opportunities for further automation, clear and transparent curricular governance, and system integration.

3.3 Cyclical Audit

While CIQE strives to continuously review quality assurance processes to implement ongoing improvements, the Quality Council approves each university's [IQAP](#) and conducts a periodic audit of how the IQAP is administered to ensure that the manner in which each university facilitates curricular change and its program reviews conforms both to the university's IQAP and the Quality Assurance Framework. Ontario Tech had its last audit in the [winter of 2019-20](#), and we are scheduled to have our next audit in the winter of 2029-30.

3.4 Audit of the Quality Council and the QC Secretariat

Under the Quality Assurance Framework, the Quality Council and QC Secretariat are required to undergo a cyclical audit at least once every eight years. The second such review is currently underway and is being facilitated by the International Network for Quality Assurance Agencies in Higher Education (INQAAHE). There is also an Ontario review team that has been engaged to provide their sector review. Ontario Tech, through CIQE, has been actively engaged in this process, completing extensive surveys, participating in focus groups as offered, and participating in consultations with the external reviewers to provide feedback. We continue to advocate for innovative and forward-thinking ways to improve efficiency and maintain excellence in quality assurance practices.

4. Follow-Up Processes

4.1 New Program Monitoring

In addition to the cyclical program review every eight years, all new programs are monitored at program intake and one-year after launch. Reports are prepared for the Academic Resource Committee (ARC) to review enrolment data, admission averages, and other key metrics to assess the new program's effectiveness against planned targets in new program proposal submissions. If there are areas of concern raised at the one-year report, a subsequent report will be required to address key curricular and student data as well as any recommendations from the ARC. This year, an intake report was received for the MASc and MEng in Mechatronics Engineering. As there were no new programs launched during the last reporting period, no one-year follow-up reports were received.

4.2 CPR Follow-Up: 18-month Reports

Eighteen-month follow-up reports comment on the completion of action items outlined in the implementation plans resulting from the cyclical program reviews. ARC reviews these reports to monitor progress on and completion of action items, and to follow up as required. It falls to the Faculty to indicate when an action item has been completed. After the 18-month review the Faculty Dean and the Provost discuss any outstanding or in-progress items to be updated within the files monitored by CIQE.

All [18-month reports](#) are available on the CIQE website for reference.

5 Summary

Throughout the 2025–2026 reporting period, Ontario Tech continued to demonstrate a sustained commitment to academic growth, renewal, and innovation through a high volume of new program

development, curricular change, and program review activity. These efforts reflected strong alignment with the University's Differentiated Growth strategy and broader sector trends, particularly in areas such as artificial intelligence, applied technologies, engineering, health sciences, business, and socially responsive education. Across Faculties, this work was characterized by increasing interdisciplinarity, collaboration, and the development of flexible pathways, specializations, and credentials designed to enhance student choice, relevance, and experiential learning opportunities.

Amid this continued growth and complexity, CIQE maintained a strong focus on continuous improvement in quality assurance processes. Through refinement of internal workflows, enhancement of tracking and reporting tools, updates to templates and resources, and ongoing collaboration with institutional partners and external bodies, CIQE supported Faculties in navigating quality assurance requirements while promoting efficiency, transparency, and academic rigor. This work positions the University well to sustain innovation, meet accountability expectations, and support high-quality academic programming in an evolving post-secondary environment.

ACADEMIC COUNCIL REPORT

SESSION:

Public

☒

Non-Public

☐**ACTION REQUESTED:**

Decision

☐Discussion/Direction
Information☐☒**TO:**

Academic Council

DATE:

May 26, 2026

PRESENTED BY:

Dr. Lori Livingston, Provost and Vice-President Academic
Brad MacIsaac, Vice-President Administration
Sarah Thrush, AVP Planning and Strategic Analysis

SUBJECT:

2026-27 Activity Based Budget Model: Program Level

BACKGROUND/CONTEXT & RATIONALE:

Activity Based-Budgeting (ABB) is a budget model that provides transparency around the key drivers of the operating budget through attribution of direct and indirect revenue and costs generated by Faculty or unit. As part of supporting the differentiated growth strategy, the university is using the ABB methodology to help inform budget allocation decisions at the university while at the same time increasing the broader campus community's knowledge of the revenue and cost drivers linked to activity.

The university uses the ABB model to:

- 1) Inform budget allocation decisions;
- 2) Provide greater understanding of the impact of revenue and cost drivers at the Faculty and program levels;
- 3) Highlight the relationship between enrolment increases and declines on budget health;
- 4) Inform discussions on how to manage budgets in a sustainable way;
- 5) Create a better understanding of subsidizations within the university; and
- 6) Understand the impact of the broader higher education context on our budget e.g. tuition fee policy, international caps, provincial funding formula etc..

March 2024 marked the beginning of an annual process of providing the ABB model to Academic Council for information. The purpose of providing this information to Academic Council is to illustrate the main components of the model on the revenue and cost sides as well as highlight underlying methodology of the various elements of the model. In response to the Ontario Auditor General's recommendations, the ABB model now shows revenue and costs attribution at the Faculty **and** program levels. Program level information was provided to Academic Council beginning at its May 2025 meeting and is now an annual report for

information to Academic Council. The model illustrates how the revenue flows in from specific fees and operating grants and how service teaching is credited, as well as the internal subsidizations/adjustments needed to cover current Faculty costs.

The transparency provided by the ABB model addresses the 2022 Auditor General report recommendation to bring greater transparency of revenue and costs by unit to Academic Council and the Board.

Supporting Reference Note:

The material for this item can be accessed by members of Academic Council through the link below. Members will need to sign in with their Banner credentials to access the document. The information contained in the material is considered sensitive and should be treated as confidential and used for internal purposes only. We respectfully request that AC members do not distribute the information to non-Ontario Tech community members.

Supporting Reference Material link:

- [Activity Based Budget Allocation Model \(Internal Use Only\)](#)

ACADEMIC COUNCIL REPORT

ACTION REQUESTED:

Recommendation	☒
Decision	☒
Discussion/Direction	☐
Information	☐

DATE: 26 May 2026

FROM: Undergraduate Studies Committee

SUBJECT: New Program Proposal – Bachelor of Business Analytics and Artificial Intelligence

COMMITTEE MANDATE:

In accordance with the Act and By-Law Number 2 the Academic Council (AC) has the delegated authority “to establish the academic standards and curricular policies and procedures of the University, and to regulate such standards, policies and procedures, including...determining the contents and curricula of all programs and courses of study” and, further, to “make recommendations to the Board on matters including...the establishment or termination of degree programs”.

In accordance with the 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.

MOTION FOR CONSIDERATION:

That pursuant to the recommendation of the Undergraduate Studies Committee, Academic Council hereby approves the Bachelor of Business Analytics and Artificial Intelligence program and recommends approval of the program to the Board of Governors.

BACKGROUND/CONTEXT & RATIONALE:

The Bachelor of Business Analytics and Artificial Intelligence (BBAI) equips students with the knowledge and expertise to be informed decision makers in public and private sector careers. This unique program combining analytics and AI is guided by the university’s ‘tech with a conscience’ ethos, and emphasizes sustainable business practices, the responsible use of technology in business and society, and ethical AI. The BBAI is a 4-year honours bachelor program. Students complete 5 courses each semester on topics ranging from business, people, and operations analytics to the application and management of AI in various business domains. Students acquire foundational technical and applied skills, while also learning how to act and think responsibly with analytics and AI systems in the broader context of digital/AI transformation. This hybrid program, with the majority of courses delivered in person and on

campus, features capstone, internship, co-op, and undergraduate thesis experiential opportunities.

The proposed program is an extension of our successful Master of Business Analytics and AI program, and aims to replicate the program's successful development for students at the undergraduate level who are looking for careers that require knowledge and competence in analytics and AI.

The program will receive support from various research centers at FBIT, including our Mindful AI Research Institute, the Institute for Cybersecurity and Resilient Systems, the Business Analytics and AI Research Group, and the Joint Research Center in AI for Health and Wellness. FBIT houses an active group of experts in business analytics and AI who employ this expertise across various fields. The proposed program fits into FBIT's four research and teaching pillars: Artificial Intelligence, Business Analytics, Interactive Media, and Cybersecurity. It also aligns with FBIT's strategic research plan themes of Digital Economy, Data Analytics and Artificial Intelligence, and Digital Technologies.

The program is featured in FBIT's academic plan and is aligned with the institution's differentiated growth objective. The Faculty of Business and IT has not had a new undergraduate degree option since creating the BIT and BCom degrees at its inception, and the faculty is now able to propose this innovative program as it has matured and accumulated diverse expertise, knowledge, and experience at both the undergraduate and graduate levels. By expanding FBIT's undergraduate degree programs to incorporate business analytics and artificial intelligence, the new BBAI degree supports the university's focus on developing programs that meet market demands and enhance its research capacity in emerging, impactful areas. It builds upon and will continue to grow the fields of business analytics and artificial intelligence at Ontario Tech, while fostering our multidisciplinary learning experience through core courses and bold, innovative electives.

RESOURCES REQUIRED:

Approximately half of the BBAI program will be serviced by courses already offered in the Bachelor of Commerce or the Bachelor of Information Technology program. It is expected that student enrolment from the BBAI program will be factored into course and section planning for those courses and adjusted accordingly. New dedicated BBAI required courses and electives will make up the other half of the program.

As an initial soft launch, FBIT proposes onboarding a limited-term faculty member with industry experience in business analytics for the 2027/2028 academic year. The contract would be for a period of three (3) years and then be revisited. Once the program has been established and intake is demonstrably steady, the LTFM position would be converted into a teaching faculty or TTT position based on the emerging needs of the faculty and program. While the program will rely on current and incoming/planned TTT/LTFM, we will be strategic in our use of sessional instructors for key areas not within the expertise of current FBIT faculty members.

A tenure-track position with an emphasis on artificial intelligence in business applications is proposed for the 2028/29 academic year. A second tenure-track position with a similar emphasis on artificial intelligence and/or business analytics is proposed for 2029/30 or the following academic year. These new hires would complement the BBAI, BCom, and BIT Technology Management programs, the BCom Specialization in Artificial Intelligence (AI) for Business, and the Master of Business Analytics and Artificial Intelligence (MBAI). Hiring would be contingent on all areas demonstrating strong intake and retention.

Once the BBAI has been established and student enrolment is sustainable, FBIT proposes creating another teaching faculty position to both meet the course requirements of the program,

and to support the other faculty areas in business analytics and artificial intelligence. This hire is proposed for the 2030/31 or 2031/32 academic year. If the program experiences a better than expected growth trajectory, FBIT will evaluate resourcing needs and if necessary, request additional faculty hires.

Details and timing of hirings are to be coordinated and confirmed with the Provost's Office. Sessionals with business analytics and artificial intelligence knowledge and industry experience would be hired to cover the remaining courses.

CONSULTATION AND APPROVAL:

- ✓ Academic Resource Committee: 11 November 2025
- ✓ FBIT Faculty Council: 7 April 2026
- ✓ Undergraduate Studies Committee (Recommendation): 21 April 2026
- Academic Council (Approval and Recommendation): 26 May 2026
- Board of Governors (Approval): 25 June 2026

NEXT STEPS:

- Pending the recommendation of USC, the program proposal will be presented to Academic Council for approval and recommendation to the Board. The proposal must proceed through the following external approval steps
 - Ontario Universities Council on Quality Assurance
 - Ministry of Colleges, Universities, Research Excellence and Security

The preferred date of implementation is in the Fall of 2027

SUPPORTING REFERENCE MATERIALS:

- New Program Proposal with Appendices
- Reports from External Review



New Undergraduate Program Proposal

The program proposal and accompanying documents must address the purpose and content of the new program and the capacity of the unit to deliver a high-quality program. This template is for all proposals for new undergraduate programs and aligns with Ontario Tech Institutional Quality Assurance Process (IQAP) requirements and, together with the required supporting documents, will help to ensure that all evaluation criteria established by the Quality Council are addressed. All sections of the template are required.

Full name of proposed program (as it will appear on the student's transcript): (e.g., Bachelor of Arts in Psychology; Bachelor of Science in Biology)	Bachelor of Business Analytics and Artificial Intelligence (Honours) [Including Co-op]
Degree designation and short form: (e.g., Bachelor of Arts, B.A.; Bachelor of Science, B.Sc.)	Bachelor of Business Analytics and AI, BBAI
Cost recovery program:	☐ Yes ☒ No
Professional program:	☐ Yes ☒ No
Faculty offering the program: (i.e., where the program will be housed/site of academic authority)	Faculty of Business and Information Technology
Collaborating Faculty(ies) (if applicable):	
Collaborating institution(s) (if applicable):	
Program delivery location:	Ontario Tech University North Campus location
Proposed program start date (please change as needed):	Fall 2027
Program proponent/contact:	Dr. Gabby Resch Dr. Mehdi Hossein-Nejad
Version date (please change as you edit this proposal):	April 2026
Date of Academic Council Approval:	

Decanal signoff <i>In signing I/We confirm that I/We have ensured appropriate:</i> ✓ <i>compliance with the evaluation criteria required in the Ontario Tech Institutional Quality Assurance Process</i> ✓ <i>consultation with the Office of the Provost and Vice-President, Academic</i> ✓ <i>consultation with faculty d students, other University divisions, and external institutions where appropriate</i>	Carolyn McGregor AM, Dean Faculty of Business and IT 28 April, 2026
Quality Council	
☐ External reviewers' report ☐ Program's and Dean's response (with date)* ☐ CVs, course outlines, and other supporting material (as appendices, where applicable; CVs provided to external reviewers)	☐ Summary of changes ☐ Final, revised proposal
Anticipated Submission to the Ministry (where sought/required)	
Final Expected Start Date	
Initial Intake Report Due (based on expected start date)	
1-Year Report Due (based on expected start date)	
Date of First Cyclical Review (based on expected start date)	

Brief description of the proposed program¹: (NOTE: Text box is formatted to limit the description to 1000 characters or less. This description should be identical to the 'Program Abstract' on page one of the proposal.)

The Bachelor of Business Analytics and Artificial Intelligence (BBAI) equips students with the knowledge and expertise to be informed decision makers in public and private sector careers. This unique program combining analytics and AI is guided by the university's 'tech with a conscience' ethos, and emphasizes sustainable business practices, the responsible use of technology in business and society, and ethical AI. The BBAI is a 4-year honours bachelor program. Students complete 5 courses each semester on topics ranging from business, people, and operations analytics to the application and management of AI in various business domains. Students acquire foundational technical and applied skills, while also learning how to act and think responsibly with analytics and AI systems in the broader context of digital/AI transformation. This hybrid program, with the majority of courses delivered in person and on campus, features capstone, internship, and co-op experiential opportunities.

¹ NOTE: Following the Quality Council's approval of the proposed program, the QA Secretariat will seek confirmation from the University that this description is appropriate to post on the Quality Council's website ([Approved Programs — Ontario Universities Council on Quality Assurance \(oucqa.ca\)](https://www.oucqa.ca))

New Undergraduate Program Proposal

Bachelor of Business Analytics and Artificial Intelligence Faculty of Business and IT

1 Program Abstract

Please provide a brief overview of the proposed program, summarizing the key points, to be shared with the public, in 1000 characters or less. You may wish to include:

- *A clear statement of the purpose of the program (who is it for, what are the outcomes)*
- *Any program components, such as fields, pathways, or micro-credentials (note that fields, pathways, and micro-credentials are not required)*
- *Nature of the learning environment, noting any distinctive elements, including alternative modes of delivery (including online)*

Note that this statement will be used on a standalone basis and is for external purposes; what do you want potential students/advisors to know about this program? (You may wish to complete this section last.)

The Bachelor of Business Analytics and Artificial Intelligence (BBAI) equips students with the knowledge and expertise to be informed decision makers in public and private sector careers. This unique program combining analytics and AI is guided by the university's 'tech with a conscience' ethos, and emphasizes sustainable business practices, the responsible use of technology in business and society, and ethical AI. The BBAI is a 4-year honours bachelor program. Students complete 5 courses each semester on topics ranging from business, people, and operations analytics to the application and management of AI in various business domains. Students acquire foundational technical and applied skills, while also learning how to act and think responsibly with analytics and AI systems in the broader context of digital/AI transformation. This hybrid program, with the majority of courses delivered in person and on campus, features capstone, internship, co-op, and undergraduate thesis experiential opportunities.

2 Academic Rationale

- *Identify what is being proposed, clearly state the program objectives, and provide an academic rationale for the proposed program (what is being created and why?)*
- *Explain the appropriateness of the program name and degree nomenclature, particularly as they relate to the program objectives; list any program specializations, pathways, etc.*
- *Describe the mode of delivery (in-class, hybrid, online) and any work-integrated learning; outline how the delivery and components are appropriate to support students in achieving the Degree Level Expectations, program outcomes, and Program Learning Outcomes*
- *Discuss how the program addresses the current state of the discipline or area of study*
- *Describe the ways in which the program fits into the broader array of program offerings within the Faculty and the University*
- *Describe any unique curriculum or program innovations, creative components, or significant high impact practice*

Since its inception, the Faculty of Business and Information Technology has sought to integrate the fields of business IT in the design and delivery of undergraduate and graduate programs, as well as in its research directions and initiatives. This is in response to demands from industry and academia that require university graduates to possess multidisciplinary competencies and skills across business and technology domains.

Data, its analysis, and the tools used to interpret it each occupy increasingly important functions in social, economic, and business activities. FBIT has a strong track record of offering courses and programs in data and business analytics, and this new degree program is an opportunity to expand on those efforts by comprehensively providing students with the knowledge, skills, and tools required for changing business, government, and non-profit roles.

This program has a parallel focus on artificial intelligence, an emerging and rapidly growing field of inquiry in the post-secondary sector. It will introduce foundational knowledge of AI technologies to students, taking an approach that is accessible to non-technical students.

The program will place a strong emphasis on the application of analytics and AI in various business functions and contexts, with applied activities to familiarize students with technologies and methods used in industry. It will also place a strong emphasis on the legal, ethical, and social implications of both data and artificial intelligence technologies and allow students to consider the various ways these tools are used to make business and policy decisions. Under the university's "Tech With a Conscience" strategic priority, the program will aim to educate professionals to use data and AI technologies responsibly and ethically.

The name "Bachelor of Business Analytics and Artificial Intelligence (BBAI)" captures the program's unique approach, which places equal emphasis on "Business Analytics" and "Artificial Intelligence," where related programs typically focus on one or the other. These two subject areas are at the heart of the program, and serve to orient its objectives. By also including the word "business," we are highlighting the fact that this program mainly focuses on the application of these technologies and concepts within the context of business, commerce, and management, rather than the more technical domains typically encountered in engineering, data science, or computer science programs.

At this time, the proposed program does not have any majors, minors, or specializations. The possibility of creating them remains open if a need arises in the future.

The BBAI will be a hybrid program, with most of its courses delivered in person and on campus. The proposed hybrid delivery mode is aimed at promoting the university's goal of a "sticky campus" while providing a flexible learning environment to our diverse student body and optimizing resource use at the university level. It is important for our students to be equipped with the skills and experiences necessary for real world working environments. The hybrid approach will allow students to navigate the program's learning outcomes and degree level expectations to align with hybrid and flexible professional working arrangements that have taken shape over the past half-decade. Successful students will have developed the necessary skills to integrate themselves into modern analytics and AI professional environments that are currently undergoing the transformation to hybrid and online work.

The main pitch for the program will be that students will be able to successfully integrate into a vibrant, dynamic, and shifting job market that requires data and AI skills. The key word here is *shifting*. The ground upon which contemporary data-driven work rests is rapidly changing. Flexible curriculum that fully considers the uncertainty

of AI-driven transformation in the workplace remains to be developed. Students in this new program will gain knowledge of AI, analytics, and cybersecurity fundamentals with special consideration to the business application of these technologies, but will do so with a recognition that many of the methods, skills, and technologies are undergoing considerable transformation. FBIT is uniquely positioned to offer a program such as this, as its expertise lies across IT and Business domains and it has an established track record of delivering novel, dynamic, and innovative curriculum across analytics and AI subjects.

The program will receive support from various research centers at FBIT, including our Mindful AI Research Institute, the Institute for Cybersecurity and Resilient Systems, the Business Analytics and AI Research Group, and the Joint Research Center in AI for Health and Wellness. FBIT houses an active group of experts in business analytics and AI who employ this expertise across various fields. The proposed program fits into FBIT's four research and teaching pillars: Artificial Intelligence, Business Analytics, Interactive Media, and Cybersecurity. It also aligns with FBIT's strategic research plan themes of Digital Economy, Data Analytics and Artificial Intelligence, and Digital Technologies.

The proposed BBAI program is an embodiment of one of the university's main priorities, to promote "tech with a conscience," which advocates for the advancement of scientific and technical knowledge in domains that affect not only day-to-day experience, but also global well-being. In keeping with FBIT's recent strategic directions, the program will include various elements dedicated to sustainability and the responsible use of technology in business and society.

The proposed program is an extension of our successful Master of Business Analytics and AI program, and aims to replicate the program's successful development for students at the undergraduate level who are looking for careers that require knowledge and competence in analytics and AI.

This program will feature a number of experiential learning opportunities, including co-op, internship, capstone projects, venture creation, and undergraduate thesis. Notably, a variety of innovative new core courses and electives that cover a wide range of analytics and AI topics, from social media analytics to adversarial machine learning, are being proposed. In each course, students will make use of hands-on activities, cutting-edge technology platforms, and case studies in data analysis and artificial intelligence and their applications in business and society.

3 University Mission, Vision, Integrated Academic and Research Plan, and Strategic Mandate Agreement

- *Detail the consistency of the program objectives with the Mission, Vision, Integrated Academic and Research 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 [Integrated Academic and Research Plan](#)*
- *Is this program consistent with the mandate of the sector? (i.e. technically/vocationally/theoretically/academically oriented for universities) Identify how the program fits within one or more areas of strength or growth in Ontario Tech University's [Strategic Mandate Agreement](#)*

The Bachelor of Business Analytics and AI aligns with Ontario Tech's mandate to provide labour market-focused degrees with strong workforce demand, as well as the FBIT's mandate to offer innovative programs that are at the intersection of technology and business. Ontario Tech's vision encourages "embracing technology with a conscience to advance knowledge and promote sustainability." The BBAI program is designed to facilitate our students' learning and skill development with cutting-edge analytics and AI technologies used in business, as well as their knowledge of the social, environmental, and ethical implications of these technologies. The program directly addresses the key priorities highlighted in our institution's vision.

The proposed program is an embodiment of the university's main priority, "tech with a conscience," which advocates for the advancement of scientific and technical knowledge in domains that affect not only day-to-day experience, but also global well-being. With a mix of in-person and online delivery modes, hands-on activities, experiential learning opportunities, and other on-campus and off-campus initiatives, the program reflects our institution's commitment to creating a sticky campus and re-imagining of learning 21st century skills for an uncertain economy and transforming professional world. The proposed program aligns with the university's core values, specifically intellectual resilience and innovation, by developing students that have the capacity to be leaders and experts in the transforming domains of business analytics and artificial intelligence, both of which are at the centre of modern scientific research activities, business development, and our changing economy and

society. The BBAI program also fits the Faculty of Business and IT mission, which emphasizes the skills, knowledge, and networks that students need to succeed in today's workplace, and encourages continued learning and adaptation to the needs of the workplaces of the future. FBIT's mission also highlights the faculty's strengths in business transformation, digital economy, data analytics, artificial intelligence, and digital technologies for good, which are all core elements of the proposed program.

Artificial intelligence is expected to change our social lives, our economy, and the ways businesses operate. Our strategic mandate asks us to develop and run programs that have community and economic impact, and are tied to skills and employment outcomes. The BBAI program addresses these mandates exceptionally well by providing students with skills that make them desirable prospective employees in Durham Region, Ontario, Canada, and beyond.

The program is featured in FBIT's academic plan and is aligned with the institution's differentiated growth objective. The Faculty of Business and IT has not had a new undergraduate degree option since creating the BIT and BCom degrees at its inception, and the faculty is now able to propose this innovative program as it has matured and accumulated diverse expertise, knowledge, and experience at both the undergraduate and graduate levels. By expanding FBIT's undergraduate degree programs to incorporate business analytics and artificial intelligence, the new BBAI degree supports the university's focus on developing programs that meet market demands and enhance its research capacity in emerging, impactful areas. It builds upon and will continue to grow the fields of business analytics and artificial intelligence at Ontario Tech, while fostering our multidisciplinary learning experience through core courses and bold, innovative electives.

4 Need, Demand, and Duplication

Provide evidence of the need and demand for the program and how this has been determined, focusing on:

- *Student interest:*
 - *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)*
- *Societal need:*

- *including evidence of the need for graduates of the program and in which fields (within academic, public, and/or private sectors);*
- *employment opportunities for prospective graduates, indicating at least three occupations in which graduates from this proposed program may be employed, selecting at least one using the [Ontario Job Futures website](#) and one from the [Government of Canada Labour Market Trends website](#); you may also wish to review the [Durham Workforce Authority website](#) and provide any relevant sector portfolio or local/community impact information;*
- *for professional programs, a description of the program's congruence with current regulatory requirements*
- *note if any employers in the area support the need for this program and include a letter(s) of support as an additional appendix*

While no formal survey or analysis of demand has been conducted, the impact of AI and data analytics on industry and the job market is undeniable, and this shift is projected to intensify in the coming years. Conversations with the RO over the past couple of years have also pointed to increasing interest in a program with the proposed characteristics and elements. At FBIT, the rapid growth of our graduate MBAI program in just the past 5 years is a clear indication that students are looking for degrees that will prepare them for the future job markets anticipated by the BBAI.

Anecdotally, in classroom discussions about employment preparation through courses like BUSI 4504U - Advanced Business intelligence, graduating Tech Management students regularly express interest in job search strategies that will position them across analytics and AI, and many report that they are unsure which competencies they need to highlight when searching for jobs in these areas.

Contemporary analytics and AI methods have transformed businesses and organizations, and this trend will only accelerate in the coming years. The 2025 Future of Jobs report by the World Economic Forum places AI and Machine Learning Specialists at the top of its list of key roles for business transformation in Canada by 2030, highlighting AI and big data, networks and cybersecurity, technological literacy, curiosity and lifelong learning, and resilience, flexibility, and agility as the core skills that will see the most increase in use by 2030. It recognizes strong demand for Data Analysts and Scientists, Business Intelligence Analysts, Information Security Analysts, Big Data Specialists, and Digital Transformation Specialists. The list also includes related positions such as Digital Marketing and Strategy Specialists and Business

Development Professionals. Graduates of our proposed BBAI program will develop the knowledge and expertise required to be successful in positions such as these.

The following data, selected from Labour Market Information databases provided by the Governments of Canada and Ontario and the Canadian Occupational Projection System, highlight broad areas of potential employment for graduates of this program, and provide evidence of potential job opportunities for BBAI graduates across Ontario and Canada.

Employment Category	Projected Job Openings Across Canada (2024 – 2033)	3-Year Forecast for Ontario	GTA Outlook	Hourly Wage Range
Data scientists (NOC 21211)	12,300	Moderate	• Employment growth will lead to a moderate number of new positions. • Not many positions will become available due to retirements.	\$26.64 - \$79.15
Information systems specialists (NOC 21222)	126,900	Very Good	• Employment growth will lead to several new positions. • Several positions will become available due to retirements.	\$27.18 - \$69.71

Database analysts and data administrators (NOC 21223)	29,800	Moderate	• Employment growth will lead to a moderate number of new positions. • A moderate number of positions will become available due to retirements. • There are a small number of unemployed workers with recent experience in this occupation.	\$25.38 - \$62.50
Business systems specialists (NOC 21221)	19,300	Moderate	• Employment growth will lead to a moderate number of new positions. • A moderate number of positions will become available due to retirements.	\$28.85 - \$61.54
Computer and information systems managers (NOC 20012)	68,300	Moderate	• Employment growth will lead to a moderate number of new positions. • Not many positions will become available	\$44.23 - \$98.08

			due to retirements.	

Locally, opportunities in the GTA, and Oshawa and Durham Region in particular, appear to be abundant. Between 2016 AND 2021, the GTA experienced the highest growth in tech talent across all tech talent hubs in the U.S. and Canada according to a report by commercial real estate firm CBRE. CBRE also named Oshawa one of the top 5 fastest growing tech talent markets in Canada, noting Oshawa's proximity to the Toronto-Waterloo Innovation Corridor and the higher-than-average number of tech jobs in the city. In 2022, the New York Times published a viral story about the GTA emerging as one of the major tech hubs in North America. Microsoft, Google, Apple, Amazon, Twitter, Snapchat, and many more were all building and recruiting in the GTA when the story was published.

At the same time, the federal and provincial governments announced a \$259M investment in Oshawa's General Motors facilities to support electric vehicle production. Given recent announcements about layoffs at GM due to U.S. tariffs, it remains to be seen whether this specific investment will lead to abundant opportunities in Oshawa, but signals suggest that investment in Durham's tech, healthcare, EV manufacturing, and precision agriculture sectors - all of which would be ideal landing spots for BBAI graduates - is healthy and indicative of future growth. Over the past decade, Oshawa's Ward 2 (which contains the University) has grown from 33,530 to a projected 38,290 by 2026, and Ward 1, Oshawa's Northeast ward that borders the University, has grown from 21,170 to a projected 34,550 by 2026. These numbers signal important population growth and economic activity in the areas surrounding Ontario Tech, and suggest that BBAI graduates who choose to remain in the area may contribute to healthy future growth in this developing area of Durham Region.

- *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?*

Ontario Tech offers a Bachelor of Engineering with a specialization in AI, but it is sufficiently distinct from the proposed BBAI program in that its focus is on developing technical engineering competencies. There is also a Bachelor of Science in Computer Science with a specialization in Data Science and a Management option that allows students to take an additional year of business courses, but it is not designed from the ground up as a degree that would combine analytics and AI. While students in the data science specialization will study some related themes, the overall course offerings and program outcomes are sufficiently distinct.

It is possible that there may be some early negative impact on FBIT's Technology Management majors in the BCom and BIT programs, as there are some overlaps in the content and potential career options, especially with FBIT's new specialization in AI for Business (which prioritizes AI competencies more than analytics). Analysis and input by the Registrar's Office has indicated that the overall level of enrolment increases with new programs, however, and that short-term negative impacts will transform into overall gains in the long term.

- *Is this a new area of study? Please explain:*

While the study of business analytics and its intersection with AI is not a new area of study, and FBIT already has established expertise and teaching experience in each of these domains, the alignment of these fields is novel - especially at the undergraduate level. FBIT's Master of Business Analytics and AI program has some similarities with recent professional master's programs in business analytics (e.g. the MBAN program at UBC), but with a greater emphasis on the development of AI skills and expertise. The BBAI program will place this emphasis on AI at an earlier stage of students' education, and ensure that they establish competencies across each field in a balanced manner. In this sense, the BBAI proposes a novel and innovative approach to teaching these topics, each of which is at the heart of an emerging data-driven economy and professional environment.

- *Identify similar or complementary programs offered by other universities with specific reference to Ontario and Canadian examples, using the table in the Appendix. Please be brief but specific in the table. Avoid value-based statements; rather, focus on need and demand, describing how the proposed program is similar to or different from existing programs. Please fill out and refer to the table in the Appendix when discussing the comparator programs*
- *Provide additional overall comment on the justification for any duplication*

We have conducted an extensive search to identify similar programs in Ontario and sought input from the Registrar’s Office. It appears that there are no dedicated degree options at the undergraduate level that combine and align business analytics and AI themes. At comparable universities in Ontario, there are options that are technical in nature (e.g. Algoma’s Bachelor of Computer Science with a specialization in data science and AI), programs that focus on the societal implications of data and AI (e.g. Trent’s forthcoming Bachelor of Arts in AI), and business programs that focus on analytics (e.g. Guelph’s Business Data Analytics minor in its Bachelor of Commerce). Across Canada, there are business analytics majors and concentrations in prominent business programs that offer courses on AI transformation (e.g. McGill and UBC).

All of the surveyed programs appear to prioritize business analytics, data science, or AI, without giving students an opportunity to develop breadth and depth of knowledge across these intertwined subject areas. There are no programs in the province or across the country that combine these subjects purposefully in order to provide students with the opportunity to acquire technical and business skills simultaneously, or to position graduates as analytics and AI leaders in a transforming economy. The BBAI will be the first undergraduate program in Canada to emphasize both business analytics and AI, and will equip students with technical and theoretical skills, critical literacies, and applied opportunities for learning. With the emergence of executive positions including Chief Data and Analytics Officer, Chief AI Officer, and AI Transformation Leader, graduates of this program will be well-positioned to lead AI-first and data-driven enterprises.

5 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
- This table should reflect normal estimated program length. (Table may be adjusted as necessary.)

Table 1: Projected Enrollment by Academic and Program Year

	Academic Year					
	2027-2028	2028-2029	2029-2030	2030-2031	2031-2032	2032-2033

Level of Study						
1 st year	40	45	55	60	65	75
2 nd year	0	40	45	55	60	65
3 rd year	0	0	40	45	55	60
4 th year	0	0	0	40	45	55
5 th year	0	0	0	0	0	0
Total Enrollment	40	85	140	200	225	255

The program is expected to reach a stable single section entry of around 60 students in 4-5 years. BBAI is a unique program that provides analytics and AI knowledge and skills for students interested in both business and IT careers. Degrees that combine these areas are not common at this time, which creates an opportunity for Ontario Tech. However, we do anticipate competition to emerge from GTA universities, and this may have an impact on our projected numbers. The program has great potential, and we hope to work with the RO on a marketing and recruitment strategy aimed at high school students within both the province and international markets. If the program experiences better than expected growth, there is capacity to revise these numbers and move to more sections in response to market demands.

6 Admission Requirements

Outline the formal admission requirements as they will appear in the Academic Calendar

Admission to the Bachelor of Business Analytics and Artificial Intelligence program will follow similar requirements to those currently set out for FBIT's Bachelor of Commerce program. Admission to the BCom program is competitive, and 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. For admission to the BBAI, preference will be given to applicants with the best mix of qualifications based on the criteria described above. Current Ontario secondary school students will need to complete the Ontario Secondary School Diploma (OSSD) with six 4U or 4M credits and a recommended overall average of 70%, including English (ENG4U) with a recommended minimum average of 60 per cent, and one of Advanced Functions (MHF4U), Calculus and Vectors (MCV4U), or Mathematics of Data Management (MDM4U) with a recommended minimum average of 70 per cent. It is strongly recommended that students complete two of these math courses.

All other applicants should refer to [admissions](#) for the requirements for their specific category of admission.

- *Explain how the program's admission requirements are appropriate for the program objectives and program learning outcomes: How will they help to ensure students are successful? How do they align with the learning outcomes of the program?*
- *Explain in detail any additional requirements for admission to the program such as minimum grade point average, special language, portfolio, etc. (and how the program recognizes prior work or learning experience, if applicable)*
- *Indicate the programs from which students may be drawn; if this is not a direct-entry from high-school program, please explain*

Ontario Tech emphasizes access to education for those who seek it, and takes pride in attracting highly qualified students. At the same time, the university provides opportunities to students who would otherwise not be able to pursue higher education in their desired field. The BBAI admission requirements ensure that students who want to pursue a career in business analytics and AI will have broadly similar requirements as other FBIT undergraduate programs from an admissions point of view. Students who meet the standard admission requirements will in a program that is both technical and theoretical in nature. Maintaining rigorous admission requirements will ensure that they can achieve success in technical introductory courses such as Intro to Programming for Analytics and AI, Intro to Business Analytics, and Statistics and Probability for Data Analytics, as well as specialized upper-year courses that will mix technical, conceptual, theoretical, and design-based competencies, such as Designing AI Systems, Strategic Management of Analytics and AI Systems, and Foundations of Machine Learning. Foundational knowledge needed in more technical and applied upper-year courses will be provided to students in earlier years of the program. Students who are admitted into the program will progress through the program courses and meet program learning outcomes from an introductory level before advancing to more complex concepts, ensuring that academic support and student success remain a priority.

The BBAI program will not require any additional admissions criteria, such as portfolios or special language. Admission will be competitive and based primarily on grades. Non-standard admissions, and those requiring special consideration, will be processed in accordance with the University's policies and procedures. Similar to other FBIT programs, this program will primarily draw high school graduates from Ontario and, to a lesser extent, other Canadian provinces. We also hope to

attract international students interested in pursuing an undergraduate degree in business analytics and artificial intelligence, a strong area of interest and growth for the international market. FBIT will collaborate with the RO to develop a marketing plan tailored to this target market. At this time, no college-to-university pathway program is developed for the BBAI, but we are open to evaluating this opportunity as more relevant college diploma programs are developed. We will evaluate transfer requests from other institutions or programs in accordance with Ontario Tech's program change and/or transfer credit policies.

7 Program Requirements, Learning Outcomes, Degree Level Expectations (DLEs), and Program Structure

Participate in program learning outcome (PLO) development sessions and complete the PLO mapping document to describe what the student will know or be able to do by the end of the program and how that knowledge or skill will be demonstrated; include the mapping document as an appendix; refer to the new PLOs and PLO mapping document to complete the questions in this section.

Please see Appendix A - BBAI Program Learning Outcomes and Alignment Map - for a list of the Program Learning Outcomes, Degree Level Expectations, Courses, and Assessments

Discuss how the design, structure, requirements, and delivery of the program are appropriate for the program learning outcomes, program outcomes, and Degree Level Expectations. Guidance on program objectives and program-level learning outcomes, including examples, is available [here](#). Be sure to include the following in your response:

- *The sequencing of required courses or other learning activities*
- *The mode of delivery of the program (is this an online or hybrid program?)*
- *Will the program be offered full-time and/or part-time; what is the program length for both full-time and part-time students; how will the program requirements reasonably be completed within the proposed time?*
- *A clear indication of how faculty scholarship and research is integrated; provide a clear indication of how an understanding of research in this area will be reflected in curriculum and/or assessment*
- *How the program will be administered*

- *The unique curriculum or program innovations or creative components in this program*
- *The ways in which the curriculum addresses the current state of the discipline*
- *If the program is to be accredited, include with the above details about the accreditation requirements and add the accreditation tables, if available, as an additional Appendix*

The sequencing of courses supports the PLOs and DLEs so that students will gain knowledge of business processes and applications, identify opportunities for digital transformation and implementation of AI, and become familiar with knowledge of models, tools, and methodologies. The course sequencing supports a foundational understanding of the main principles in the first two years and progresses to advanced learning outcomes in the final two years via courses like Strategic Management of Analytics and AI Systems, Advanced Business Intelligence, and Responsible Analytics - Ethical, Legal, Policy, and Social Implications of Analytics and AI.

The BBAI will be a hybrid program, with the majority of courses delivered in-person and on campus. The proposed hybrid delivery mode is aimed at achieving the university's goal of a sticky campus while providing a flexible learning environment to our diverse student body and optimizing resource use at the university. Whether in person or in an online hybrid format, the mode of delivery supports all of the PLOs and DLEs as graduates will need to present, craft data stories, and create useful reports that can be delivered to an end user in an online presentation, in person presentation, or a combination of both. A hybrid program ensures students are better equipped for the flexible professional world.

Similar to other FBIT programs, the BBAI degree will accept FT and PT students. The standard program length for FT students is four years. The standard program length for PT students is 6 years. The course loads for FT and PT students mimic the standard program lengths of most normal university programs. The students are equipped with many resources such as academic advising, teaching and learning, international student services, and more to help mitigate the pressures of completing the required course work in the standard period.

As previously mentioned, the BBAI program will be aligned with the MBAI graduate program, which will create many synergies and opportunities between the programs for advanced learning and collaboration with graduate students working in a research/project mentality. This will be clearly demonstrated through the capstone

final project or even the undergraduate student research fellowship, where our brightest will showcase their innovation and research skills acquired through Faculty mentorship and knowledge gained through course work. The culmination of knowledge directly supports the PLOs and DLEs, allowing the student to speak with confidence on their final capstone project or research findings.

The BBAI program will be administered in a contemporary format with PLOs and DLEs reflecting the current state of the field of study. Given the fast-changing fields of analytics and AI, the program should continue to adopt new ideologies and emerging technologies so it can further prepare graduates for their future careers.

This program will have access to FBIT's collection of experiential learning programs such as co-op, internship, capstone projects, and/or venture creation. Within each course, students will utilize hands-on activities, technologies, and case studies in data analysis, artificial intelligence, and their application in business and cybersecurity. These unique curricular and experiential program components will strengthen the PLOs and DLEs by supporting students in exploring individual academic desires outside the main curriculum of the program.

The main pitch for the program will be the growing and vibrant job market for these skills in current and coming years. Students will gain knowledge of AI, Analytics, and cybersecurity fundamentals with special consideration to the business application of these technologies. FBIT is uniquely positioned to offer a program such as this with expertise in IT and Business. The PLOs and DLEs are in alignment with students being well prepared and equipped to meet the demands and needs of the industry upon graduation. The innovative and well-structured course work as well as the experiential program components all address the current state of the discipline.

FBIT will explore accreditation options for the BBAI program, but the program is not accredited at this time.

Describe how the principles of Equity, Diversity, Inclusion, and Decolonization have been considered:

- *Does the program contain concepts, materials, or resources from scholars/professionals who are part of one or more historically marginalized groups?*
- *Are multiple perspectives represented in the program, such as those offered by those who are Indigenous, Black, Persons of Colour, and/or 2SLGBTQIA+?*

- *How has accessibility been considered? More specifically, have the needs of students with disabilities been integrated into the program design (e.g., the ways that students are asked to demonstrate their learning)? Please provide information beyond the services offered by Student Accessibility Services*
- *Discuss how the program structure and delivery reflect universal design for teaching and learning and how the potential need to provide mental or physical health accommodations have been considered; describe how the program structure and delivery methods promote student well-being and resiliency and any elements that support a sense of community in the program*
- *Will this program provide space to allow for the discussion of other viewpoints outside the “dominant, Western narrative”?*

The Faculty of Business and IT (FBIT) is among the most diverse and inclusive faculties at Ontario Tech University in terms of racial, religious, and gender diversity in faculty members and students. The BBAI program is proposed to feature some topics on AI and equality/ the global AI divide taught by our diverse faculty and geared toward understanding broader discussions on the ethics of business analytic and AI technologies.

A diverse approach in designing the BBAI program has been taken into consideration. Not only does the program have foundational pillars which meet the needs in understanding ethical, moral, and equitable use of business analytics and AI, it also proposes future elective courses and content which speak directly to understanding how Indigenous data is collected, stored, and preserved. The principles of collecting data and preserving it in the way and context First Nations communities deem it to be collected and stored facilitates Indigenous data sovereignty and promotes responsible data governance. The IEAC will be consulted before these electives are developed and finalized.

We aim to actively support diversity in the student body and ensure adequate representation as we train future industry leaders. Special attention will be directed to the promotion of the program to underrepresented and equity-deserving groups, as well as Indigenous applicants. We hope that the planned flexible programming and delivery mode of the program will increase access to it from various groups.

Similar to other undergraduate programs at Ontario Tech University, this program will follow the Procedures for Academic Accommodation for Students with Disabilities: <https://usgc.ontariotechu.ca/policy/policy-library/policies/legal,-compliance-and->

[governance/procedures-for-academic-accommodation-for-students-with-disabilities.php](#)

FBIT is dedicated to considerations for students, staff, and faculty who have the need for accommodations due to mental, physical, or health related issues. Students will be given the opportunity to engage with student accessibility services and other central offices such as teaching and learning in order to accommodate needs for universal teaching and learning. In the BBAI program, FBIT will cultivate an environment that promotes student wellbeing and a sense of community through actively listening to the student body, including students in cyclical program reviews for input, focus groups, and surveys. Creating program-specific events will not only foster healthy competition, but establish a strong academic community that includes students.

As shown through the course catalogue, the BBAI program will have a global focus. Elective courses such as AI for Social Good, AI and Inequality, and Technology in Society are good examples of program content with broader global topics. The program also hopes to add electives that focus on Indigenous data and OCAP principles after consultation with the IEAC.

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

Please see above for information related to Indigenous content.

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

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) and provide letters of support.

This program will have access to FBIT's collection of experiential learning programs such as co-op work terms, internships, capstone projects, and/or venture creation. Within each course, students will utilize hands-on activities, technologies, and case studies in data analysis, artificial intelligence, and their applications in business and cybersecurity.

8 Assessment of Teaching and Learning

Using examples from the PLO mapping document, address the following. Please see [Guidance on Assessment of Teaching and Learning](#) and speak with the Teaching and Learning Centre (TLC) for advice on how to satisfy these criteria.

- *Appropriateness of the proposed methods for the assessment of student achievement of the intended program learning outcomes and Degree Level Expectations*
- *Describe plans for documenting and demonstrating:*
 - *The overall quality of the program*
 - *Whether the program is achieving in practice its proposed objectives;*
 - *Whether the students are achieving the program learning outcomes and a level of performance consistent with the Degree Level Expectations; and*
 - *How the resulting information will be used to inform continuous program improvement*

As highlighted and illustrated in the PLO-DLE mapping spreadsheet, the courses in the program use a myriad of assessment methods at the course level to measure students' progress towards the course and program level learning outcomes. Following the advice and procedures set out by the Quality Council, special care was taken to ensure that assessment methods are appropriate for the corresponding learning outcomes. Additionally, the position of a course in the program map (early years vs upper years) has an impact on the mix of assessment methods employed. As the learning outcomes shift more towards the application and integration of knowledge in the upper year courses, the nature of the assessments also shift to more detailed written assignments and case analyses, group projects, presentations, simulations, and reports.

Students at Ontario Tech and the Faculty of Business and IT are provided with a detailed course outline at the start of each semester. This course outline clearly indicates the learning objectives and the topics covered in the course. Additionally, information about the teaching approach, assessment methods, expectations, and all other relevant operational and academic matters are outlined in this document. Students regularly receive grades and feedback throughout the semester and are encouraged to work with their instructor to improve when needed. Ontario Tech also has an early alert system in place for first year students through its academic advising office. This system tracks the students' progress in the first few weeks of their initial year at the university, and support is offered to students struggling with the courses. While this particular system is in place for 1st year students, the advising office continues to work with students and their instructors throughout their program and when needed to ensure students have access to all available academic and mental health resources.

Across the new and existing courses proposed for the BBAI program, the following formative and summative assessments tools are used to both measure student progress and performance, and to provide learning opportunities and growth:

- In class activities that encourage students to work on a specific task individually or in groups, or make contributions to class discussions through oral and written comments.
- Written assignments in the form of case analyses, essays, reports, research projects, data analysis results and interpretations, and proposals that help students practice and display critical thinking analytical skills.
- Tests and quizzes during the semester with timely feedback to assist in learning and improvement.
- End of term examination to assess learning.
- Simulations.
- Group and/or individual projects that allow students to work on analytics and AI topics, problems, opportunities and develop problem solving, research, and analysis skills.
- Presentations.
- Other assignments focusing on topics such as programming, data analytics, AI systems, statistics. These are mainly used as formative assessments to provide feedback and help students identify areas of strength and those needing improvement.
- Tasks related to specific software, technologies, and analytics tools. These may be assigned in class, at home, or in a lab.

A few examples of course assessments used and how they are linked with degree and program level outcomes:

BBAI 4700U- Strategic Management of Analytics and AI systems

This upper year course relies heavily on case studies in teaching a variety of topics and in assessment of student progress and learning. Heavy emphasis is placed on in-class activities and contributions, detailed case analysis essays, assignments, term tests, and a final exam. The overall teaching approach, the nature of the assessments, and the type of extensive feedback provided to students correspond well with the higher level degree expectations of “Application of Knowledge”, “Awareness of Limits of Knowledge”, and “Autonomy and Professional Capacity”. The course also covers and assesses student learning under PLO1, PLO4, PLO6, PLO7, PLO9.

BBAI 4750U - Leading Digital Transformation

This upper year course builds on many earlier topics and courses in the program, and students will learn how to navigate complex, wide-scale digital transformation, how to manage resistance to change, and how to shepherd the shift toward enterprise-wide system migration. To assess the learning in these highly complex topics, methods such as case study analysis, detailed essays, and a major multi-stage group project are used. The project itself contains many components including a presentation to the instructor and peers. These assessments align well with the higher level degree outcomes and the numerous PLOs corresponding to the course.

BBAI 1950U - Statistics and Probability for Data Analytics

This is an introductory course that gives students specific fundamental quantitative tools necessary for success in the program and post graduation. Students apply statistical methods using real-world business datasets to build reliable, interpretable models and communicate insights to technical and executive audiences through clear visuals and narratives. The course uses, Weekly problem sets (concepts & short applications), software labs using real datasets (reproducible notebooks), term tests (applied inference & regression), a term project: design and defend an A/B test or predictive regression for a business question; submit executive brief and in-class presentation (visualization/storytelling focus). It also includes formative low-stakes quizzes to reinforce knowledge and learning. The composition of the various assessment tools correspond to the “Knowledge of Methodologies” and “Communication Skills” degree level expectations. They also measure competencies and progress towards PLO2 and PLO3.

A data-driven approach to track program success will be undertaken by the program leadership team. This will involve the development of internal processes designed to track/evaluate metrics provided by the Centre for Institutional Quality Enhancement, as well as metrics collected by the program. These processes will deliver periodic reports for monitoring the health of the program. We will also initiate surveys with students, graduates, and other key stakeholders to expand the scope of this data-driven approach.

The following data is collected annually:

- course-level performance data (grades, GPA distribution, progression, and completion rates),
- enrollment and retention figures,
- student demographic data relevant to EDI and access,
- course evaluation summaries,
- instructor reflections on course delivery and curricular effectiveness,
- graduate and employment data.

Any required changes to curriculum, assessment methods, delivery, or administration are implemented as appropriate and feasible at the discretion of the Faculty Dean. Curricular changes are then submitted and documented through appropriate Faculty and University committees consistent with standard curricular change policies and procedures as identified in the IQAP.

In accordance with the University's Institutional Quality Assurance Process, the long-term assessment and monitoring of program effectiveness and continuous improvement will be through the cyclical program review process. In addition to the external review every eight years, Ontario Tech's Academic Resource Committee (ARC) requires a brief report at program launch and a full report one-year after the launch of a new program. The one-year report will ask the program to review enrollment data, admission averages, and provide an analysis of successes and challenges encountered in the first year. If there are areas of concern and it is deemed necessary, ARC will make recommendations to enhance program effectiveness and student success and may request a subsequent report. If required, the subsequent report will address key curricular and student data (e.g. GPA, retention data, etc.) as well as any outstanding recommendations from the one-year report. Pending ARC's review, further documentation may be required of the program for ongoing monitoring.

9 Calendar Copy and 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; 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*

Please see Appendix B Calendar Copy with Program Maps

- *Provide, as an Appendix, a full list of all courses included in the program including course numbers, titles, and descriptions. Please indicate clearly whether the courses are new/existing. Include full new course proposals for new courses, the template for which will be provided by CIQE. Include the most recent course descriptions for existing courses. If you are making changes to the existing courses, also include a course change form. In an Appendix referenced in Section 11 below, you will note which faculty members are expected to teach in the program and who is responsible for developing any new courses.*

* For a full list of courses in the program Please see Appendix C: List of Program Courses, C1 - New Course Proposals, C2 - Existing Course Descriptions, C3 – Course Changes

10 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*
- *Describe any consultation undertaken with regard to the principles of Equity, Diversity, Inclusion, and Decolonization not covered in Section 7 above*

The proposed BBAI program complements the current portfolio of degree offerings within FBIT. The Faculty has experts in Information Technology and Business, and this program is an opportunity to expose our students to both sets of topics in a truly

interdisciplinary curriculum. Graduates will learn about AI and data analytics within the context of business to understand how these tools enable new business models, competitive positioning, informed decision-making, and effective analysis. They will also learn about the ethical, legal, and social implications of these business tools. Such a collection of topics fills a gap between our more technical programs under the Bachelor of IT umbrella and our traditional business majors under the Bachelor of Commerce program.

It is possible that there may be some early negative impact on our Technology Management majors in BCom and BIT since there are some overlaps in the content and potential career options. Analysis and input by the RO has indicated that the overall level of enrolment increases with new programs and the short-term negative impacts will transition to overall gains in the long term. This program has a stronger emphasis on AI and business analytics compared to our current Technology Management major, and will hopefully attract students who are looking to learn about these tools and their applications in various business functions and settings.

We anticipate minimal impact on other FBIT programs in the long term, with anticipated net gain in student admissions with BBAI added to the portfolio of degrees within the Faculty. As this program is heavily focused on the business applications of AI and analytics, we also see minimal overlap with programs across the university. Students who want a more technical understanding of AI technologies or data analytics can find options within the Faculty of Science or Faculty of Engineering and Applied Sciences. With the recent approval of the School of Ethical AI at Ontario Tech, all AI-related degrees, including BBAI, will form a comprehensive portfolio of programs that offer choice for students seeking to learn about these technologies, and/or their application in different contexts.

The BBAI program was one of the main proposals presented by Dean Dr. McGregor when she outlined her vision for FBIT at the start of her term. She ensured that Deans from the other Ontario Tech faculties have been informed of the plan to pursue this new degree. She also presented the proposed differentiated growth strategy for FBIT within the Dean's Council in January 2024 after her appointment as Dean. Since then, the BBAI idea has been discussed briefly at various faculty council meetings and gatherings at FBIT.

During the development stage of the program proposal, input was sought from subject matter experts within FBIT. A copy of the proposed program learning outcomes, course list, and program description was sent to this group for feedback,

and comments were carefully reviewed and integrated by the team working on the proposal. The proposal has been presented to Faculty Council twice for information, and to seek further feedback, before going to external reviewers for comment.

FBIT is committed to upholding the principles of Equity, Diversity, Inclusion, and Decolonization in program development, launch, and delivery. Any feedback relating to these principles will be considered carefully to ensure the inclusivity of our program(s).

11 Resource Requirements

Resource Summary

Provide a brief summary statement of the funding requirements and the rationale. Please consult with the Provost's Office early regarding any resource implications described in this section.

What human and physical resources will be required to launch and sustain the program?

Additional faculty members and teaching assistant support will be required as the program grows. See section 11.1 Human Resources Requirements.

As the BBAI program grows, additional non-academic staff may also be required. See section 11.1 Human Resources Requirements.

The Faculty expects the BBAI program to be technical and hands-on in nature, similar to our current Bachelor of Information Technology programs. See sections 11.3 Information Technology and 11.4 Space and Infrastructure Requirements.

How will existing programs be impacted?

It is possible that there may be some early negative impact on our Technology Management majors in BCom and BIT since there are some overlaps in the content and potential career options. Analysis and input by the RO has indicated that the overall level of enrolment increases with new programs and the short-term negative impacts will transition to overall gains in the long term.

What is the marketing pitch for this program and what outlets should be used?

The main pitch for the program will be the growing and vibrant job market for these skills in current and coming years. Students will gain knowledge of AI and Analytics fundamentals with special consideration to the business application of these technologies. FBIT is uniquely positioned to offer a program such as this with expertise in IT and Business.

The RO will take the lead in promoting the program and attracting students. FBIT will collaborate by providing information for marketing material and participating in events and outreach programs.

The resource requirements outlined in Section 11 have been reviewed by the Academic Resource Committee (ARC): ____ 11 November 2025

11.1 Human Resource Requirements

Faculty – New and Existing Requirements

Complete, as an Appendix, the table detailing the list of faculty committed to the program and provide, in paragraph form below, the following:

- *Clear evidence that faculty have the recent research or professional/clinical expertise needed to sustain the program, promote innovation, and foster an appropriate intellectual climate*
- *Additional information to demonstrate how supervisory loads are distributed in light of qualifications and appointment status, if not clear from the table*
- *Evidence of the participation of a sufficient number and quality of faculty who will actively participate in the delivery of (teach and/or supervise) the program and achieve the goals of the program and foster the appropriate academic environment, contribute substantively to the program, and commit to student mentoring*
- *Describe the role of any sessional/part-time faculty and any adjunct faculty; provide an approximate percentage used in the delivery of the program and the plans to ensure the sustainability of the program and quality of the student experience*
- *Explain the provision of supervision of any experiential learning opportunities; how will supervisory loads be distributed?*

Provide the CVs of all faculty who appear in the table of faculty committed to the program. These CVs should form a separate document with a table of contents and should have all CVs in alphabetical order by surname. CVs should be submitted in a consistent format.

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

Please explain, i.e. Why would new faculty not be required? Would this change over time? What year will any faculty hire be required, and are there additional criteria associated with the hiring requirement (e.g. enrolment levels, program growth, University or Faculty priorities)?

Please see Appendix D: Detailed Listing of Faculty Committed to the Program and Appendix E: Curriculum Vitae for Faculty Committed to the Program (external review only)

Approximately half of the BBAI program will be serviced by courses already offered in the Bachelor of Commerce or the Bachelor of Information Technology program. It is expected that student enrolment from the BBAI program will be factored into course and section planning for those courses and adjusted accordingly. New dedicated BBAI required courses and electives will make up the other half of the program.

As an initial soft launch, FBIT proposes onboarding a limited-term faculty member with industry experience in business analytics for the 2027/2028 academic year. The contract would be for a period of three (3) years and then be revisited. Once the program has been established and intake is demonstrably steady, the LTFM position would be converted into a teaching faculty or TTT position based on the emerging needs of the faculty and program. While the program will rely on current and incoming/planned TTT/LTFM, we will be strategic in our use of sessional instructors for key areas not within the expertise of current FBIT faculty members.

A tenure-track position with an emphasis on artificial intelligence in business applications is proposed for the 2028/29 academic year. A second tenure-track position with a similar emphasis on artificial intelligence and/or business analytics is proposed for 2029/30 or the following academic year. These new hires would complement the BBAI, BCom, and BIT Technology Management programs, the BCom Specialization in Artificial Intelligence (AI) for Business, and the Master of Business Analytics and Artificial Intelligence (MBAI). Hiring would be contingent on all areas demonstrating strong intake and retention.

Once the BBAI has been established and student enrolment is sustainable, FBIT proposes creating another teaching faculty position to both meet the course requirements of the program, and to support the other faculty areas in business analytics and artificial intelligence. This hire is proposed for the 2030/31 or 2031/32

academic year. If the program experiences a better than expected growth trajectory, FBIT will evaluate resourcing needs and if necessary, request additional faculty hires. Details and timing of hirings are to be coordinated and confirmed with the Provost's Office. Sessionals with business analytics and artificial intelligence knowledge and industry experience would be hired to cover the remaining courses.

Additional Academic and Non-Academic Human Resources

Give details regarding the nature and level of TA support required by the program, the level of administrative (i.e. new program director appointment), and academic advising support, etc. If new staff resources are needed, provide further details below.

Given the distinct and separate nature of the BBAI compared with the Faculty's other programs, the Bachelor of Commerce and the Bachelor of Information Technology, a program director will be appointed. The appointment may also include supporting the Technology Management programs in both the Bachelor of Commerce and the Bachelor of Information Technology.

The Faculty expects the BBAI program to be technical and hands-on in nature, similar to our current Bachelor of Information Technology programs. Teaching assistantship will be provided to support the delivery of course materials and related laboratories and tutorials.

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

If yes, please outline what year the staff hire(s) will be required and any additional criteria associated with the hiring requirement (e.g. enrolment levels, program growth, University or Faculty priorities):

Once the BBAI has been established and student enrolment is sustainable, the Faculty will revisit overall staff support. In particular, two (2) areas of support will be reviewed: (1) the technical support (e.g. information technology, datacentre, software, laboratories) and (2) the undergraduate program support. It is expected that the current advising structure can support the increased enrolment in the Faculty.

11.2 Learning Resources

Provide an opening statement to describe the resources to sustain the quality of scholarship and research activities of undergraduate and graduate students, enhance the

learning and teaching environment, promote student well-being and resiliency in the learning and teaching environment; refer as noted to the two standard Appendices. Please contact your [Subject Librarian](#) as you begin your proposal to request the 'Library statement for new program proposal'.

Please see Appendix F - Library Report - for a statement from the Library confirming the adequacy of library holdings and support for student learning.

Please see Appendix G: Existing Student Supports for a University statement concerning student support services.

11.3 Information Technology

Provide a summary of evidence that there are adequate information technology resources to sustain the quality of scholarship and research activities of undergraduate and graduate students; address any unique requirements including renovations to existing space, Faculty-specific space/equipment, etc.; are there additional technology requirements specific to being able to successfully launch this program? Refer as noted to the standard Appendix.

Please see Appendix H - Information Technology Services for a University statement concerning information technology services.

Faculty-specific space/equipment:

The Faculty expects the BBAI program to be technical and hands-on in nature, similar to our current Bachelor of Information Technology programs. Ideally, a space that can accommodate from 30 to 60 students could be designed as a collaborative design thinking classroom and flexible workspace, with modular stations where students can engage in collective ideation, sketching, prototyping, and demonstration activities. This collaboratory-style space would contain at least 30 desktop computers outfitted with relevant software and access to databases for running simulations, designing experiments, and engaging in brainstorming activities that expand on design ideation exercises students carry out in their courses and experiential learning activities.

Space allocation in FBIT's data centre will support data-centric activities in the collaboratory, as well as teaching, experiential learning, and research activities that require access to large datasets as well as the hardware resources and processing power required to train and run AI models. The Faculty would set up the space to support multiple programs, including the BBAI, the BCom and BIT Technology

Management programs, the BCom Specialization in Artificial Intelligence for Business, and the Master of Business Analytics and Artificial Intelligence.

Software and datasets will be of significant importance in the BBAI program. While base software and datasets will be made available in the laboratory, course-specific software will be required and is expected to be incorporated into Ontario Tech's Technology-Enriched Learning Environment program. It is also expected that faculty and staff will require ongoing training to maintain expert knowledge in the evolving fields of AI and analytics.

Supporting information for online and hybrid programs

Where applicable, please provide the following details for online and hybrid programs:

- *Describe the adequacy of the technological platform to be used for online delivery*
- *Describe how the quality of education will be maintained*
- *Describe how the program objectives will be met*
- *Describe how the program learning outcomes will be met*
- *Describe the support services and training for teaching staff that will be made available*
- *Describe the sufficiency and type of supports that will be available to students*
- *How has accessibility been considered?*
- *What strategies have been considered to accommodate students with disabilities?*
- *Have the principles of [Universal Design](#) been considered?*
- *Will course content be offered in both written and audible forms (e.g., closed captioning, transcriptions)?*
- *Is course content designed logically and is it easy to follow with limited instruction?*
- *Are assignment expectations clear (i.e., a rubric)?*
- *Have the needs of students with limited or unreliable access to wi-fi been considered (e.g., breaking down pre-recorded lectures into maximum 10-minute videos)?*

- *Describe the adequacy of the technological platform to be used for online delivery*

Ontario Tech employs a learning management system (Canvas) integrated with video conferencing tools (e.g., Zoom, MS Teams, Meet), ensuring reliable online delivery. This platform allows for synchronous and asynchronous course delivery, access to digital resources, submission of assignments, and discussion forums. TELE also supports **bring-your-own-device (BYOD)** standards with licensed software, cloud-based resources, and technical support.

- *Describe how the quality of education will be maintained*

Ontario Tech has well-established courses that are taught online. Faculty members have been teaching courses online since the early 2000s. Quality education can be maintained with clear expectations, careful planning of the curriculum, and engagement with the students. Since the university wishes to include a variety of delivery modalities, faculty members have developed strong methodologies for teaching online, in-person and in hybrid formats.

By designing all courses, including hybrid and online, with attention to Universal Design for Learning (UDL) protocols, we work to ensure that all students are accommodated to the best of our ability. UDL principles are considered by ensuring that students have access to ppt slides prior to lectures where and when possible, using closed captioning on lecture videos, having flexible scheduling of assignments, and so on, within the limits imposed by university rules and structures. Within the parameters of academic freedom, course content is designed logically and clearly outlined on the syllabus. Given the wide range of andragogical models, different courses may have different designs and levels of complexity. Assignment expectations are clearly laid out in the syllabus or in assignment information sheets and within the Canvas Learning Management System. The university's Teaching and Learning Centre provides workshops that assist instructors in planning their courses, including advice on teaching online, rubric and assignment best practices, and so on, such as chunking lecture videos into shorter 10 min segments. Students are always encouraged to reach out to instructors, academic advisors, and program directors if they run into difficulties in any of their courses, whether they are online or in-person.

- *Describe how the program objectives will be met*

Online modules, research supervision, and lab simulations align with program learning outcomes, ensuring rigor and accessibility. Preparing students for leadership in AI, analytics, and cybersecurity—are achieved through: Coursework in AI systems, business intelligence, visualization, and data ethics. Experiential projects that allow application of business analytics and AI in real-world contexts.

- *Describe how the program learning outcomes will be met*

Learning outcomes (e.g., applying AI tools, managing projects, evaluating ethical implications) are met through: Practical assignments (case studies, projects, applied research). Assessments (tests, papers, presentations, rubrics) ensuring measurable achievements. Integration of commercial and open-source technologies in labs and coursework to mirror industry practices.

- *Describe the support services and training for teaching staff that will be made available*

Faculty receive training and ongoing support through the Teaching and Learning Centre, including workshops on online pedagogy, accessibility, and use of digital tools. The IT Service Desk and Software Support Specialists provide direct technical assistance.

- *Describe the sufficiency and type of supports that will be available to students*

Students benefit from IT support via phone, chat or email, access to online library resources, Business Analytics and AI labs, and academic advising through Graduate Program directors and Assistants.

- *How has accessibility been considered?*

Course materials adhere to AODA standards, with closed captioning, transcripts, and screen-reader-friendly design. Universal Design for Learning principles are embedded in course development. Adaptive infrastructure like AODA desks are available. Closed captioning and transcription are available for recorded lectures and video content.

- *What strategies have been considered to accommodate students with disabilities?*

Academic accommodations coordinated by Student Accessibility Services. Learning materials available in multiple formats visual and/or audio. Flexibility in assignments and assessments as needed.

- *Have the principles of [Universal Design](#) been considered?*

Yes, Universal Design for Learning (UDL) is integrated into course design. This ensures multiple means of engagement, representation, and expression, making course content usable by all students

- *Will course content be offered in both written and audible forms (e.g., closed captioning, transcripts)?*

Yes, recorded lectures include captioning and transcripts.

- *Is course content designed logically and is it easy to follow with limited instruction?*

Yes, Content is logically organized and designed to be navigated with minimal instruction.

- *Are assignment expectations clear (i.e., a rubric)?*

Assignments include clear rubrics and grading criteria for transparency. Students receive structured guidance through sample cases and project briefs.

- *Have the needs of students with limited or unreliable access to wi-fi been considered (e.g., breaking down pre-recorded lectures into maximum 10-minute videos)?*

Pre-recorded lectures are broken into short segments (≤ 10 minutes) to allow easier streaming and downloading. Materials are provided in low-bandwidth formats where possible and feasible (slides, transcripts, PDFs).

11.4 Space and Infrastructure Requirements

- *Provide evidence that there are adequate resources to sustain the quality of scholarship and research activities of undergraduate and graduate students, including information about laboratory and research space access, where applicable, and office space; address any unique requirements*
- *Highlight the change in the number of faculty, students, administrative staff, etc. as well as information on changes in equipment and activities; renovation of existing space; or whether the current space allocation will accommodate the new program*
- *Are there additional space requirements specific to being able to successfully launch this program?*

As the BBAI is established and the Faculty onboards new faculty members, dedicated office and research space may be required. Details and timing of space and infrastructure requirements will be coordinated and confirmed with the Provost's Office as the need arises.

For space and infrastructure requirements specific to information technology and laboratory space, see section 11.3 Information Technology.

11.5 Other Resource Implications

- *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 (cique@ontariotechu.ca) regarding any implications to existing or new agreements*

- *Are there inter-Faculty teaching implications?*
- *If this is a new joint program with another institution, indicate how the program will be administered and how program reviews will be conducted (refer to the Ontario Tech [Institutional Quality Assurance Process Policy](#) for more information)*

There are no impacts on existing agreements and no inter-Faculty teaching implications.

12 Closing Statements Regarding Program Quality

- *Please summarize the appropriateness of the faculty's collective expertise and how it contributes substantively to the proposed program; use indicators to provide evidence of the quality of the faculty (e.g., qualifications, funding, honours, awards, research, innovation, and scholarly record).*
- *Please summarize how the program and faculty will ensure the intellectual quality of the student experience.*

The Bachelor of Business Analytics and Artificial Intelligence will be the first undergraduate program in Ontario to give parallel consideration to business analytics and AI, arguably the two most important areas for future innovation, growth, and responsible policy development in a shifting economy. As Ontario and Canada face political and economic headwinds brought on by broad global transformations, this program will prepare our students to be the leaders and stewards who will help navigate this uncertainty. BBAI graduates will develop technical knowledge and skills that span machine learning pipelines to recommendation systems to data storytelling. They will develop applied knowledge in domains like customer and people analytics, geospatial analytics, and contemporary electronic finance. Importantly, they will acquire the capacity to think critically about analytics and AI systems, and will learn practices that emphasize sustainability, resilience, ethical development, and responsible integration of these systems in a changing business landscape.

As a hybrid program with the majority of its courses delivered in person and on campus, the BBAI will be flexible enough to accommodate changes to the university experience, while still prioritizing peer-to-peer experiences and connection to a young and dynamic university that has positioned itself as a leader in technology-driven curriculum. FBIT's state-of-the-art labs, classrooms, and data infrastructure will ensure that students are able to engage with this curriculum in a modern and realistic setting - learning applied skills with the technologies and systems they are likely to encounter

in real world professional settings, and not merely engaging in classroom debates or memorizing textbook facts. Ontario Tech's emphasis on grounding students in real-world professional practice has meant that experiential opportunities for students take precedence, and FBIT's strong record of support for experiential and hands-on learning will ensure that BBAI graduates are prepared to enter the workforce with strong portfolios that highlight their capstone, internship, co-op, research, and venture creation projects.

Unique in its equal emphasis on business and information technology, FBIT boasts a truly multidisciplinary faculty with expertise in a wide range of fields, from marketing to networking and IT security to management information systems and more. Faculty members who make up the core of the BBAI program carry out award-winning international research in areas that include marketing analytics, big data analytics, information visualization, sustainable supply chain management, adversarial machine learning, reinforcement learning, trustworthy AI, and many more. This core faculty group includes one current Canada Research Chair and one alumni, as well as researchers with extensive public and private experience working with organizations like the National Research Council and PricewaterhouseCoopers. Collectively, the group currently holds tens of millions of dollars in research funding from the tri-council funding agencies, including NSERC Discovery grants, CIHR Project grants, and SSHRC Partnership grants, in addition to research funding from Mitacs, Canada Foundation for Innovation, and more. A handful of this core group are among the most cited researchers in their fields.

The core BBAI faculty group has a strong commitment to developing innovative curriculum and pedagogy. A number of the group's members have been recognized for teaching excellence and have, over the past two years, been nominated for (and, in a few cases, received) Ontario Tech's Award for Excellence in Teaching, Learning Re-Imagined Award, Open Education Award, Tim McTiernan Student Mentorship Award, Student Choice Award, and FBIT's Early Career Teaching Award and Teaching and Sustainability Award. This group also engages in a variety of innovative teaching methods. These include employing augmented and mixed reality methods and technologies for teaching geospatial analytics, developing open source and public-facing analytics curriculum that is shared on GitHub, and establishing collaborations with the Regional Municipality of Durham and the City of Oshawa to develop curriculum that uses data from local governments to address real-world challenges in the cities surrounding the university.

The BBAI will build on the Faculty of Business and IT's successful creation of its Master of Business Analytics and AI, which has experienced healthy growth over the past three years. MBAI graduates have landed positions as analysts and data scientists at Royal Bank of Canada, Ontario's Municipal Property Assessment Corporation, Bouchier, Shopify, and many other prominent organizations. Through its commitment to developing groundbreaking curriculum that aligns analytics and AI themes, and its adoption of data-driven and technology-enabled teaching methods that ensure students are exposed to the tools and skills they will encounter in real-world professional scenarios, FBIT is the natural home for a program such as this. BBAI graduates will be ready for the various challenges that businesses increasingly will be faced with, from IT security threats to climate risk mitigation. They will be ready to shepherd organizations through AI transformation. They will be ready to deploy cutting-edge analytics and AI solutions while taking political, legal, and ethical considerations into account. They will be ready to act and think responsibly, ushering in a new era of data-driven decision making.

Appendices

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

- A: Program Learning Outcomes and Alignment Map
- B: Calendar Copy with Program Map
- C: List of Program Courses, New Course Proposals, Existing Course Descriptions, Course Changes
- D: Detailed Listing of Faculty Committed to the Program
- E: *Curriculum Vitae for Faculty Committed to the Program (provided only to external reviewers for new Degree programs or to Quality Council in the case of new Diploma Programs)*
- F: Library Report
- G: Existing Student Supports
- H: Information Technology Services

Items to be separate documents sent to CIQE:

- New Program Funding and Tuition form (for CIQE use only)
- Budget Spreadsheet (for ARC use only)

Appendix A - Program Learning Outcomes and Alignment Map

BBAI	Bachelor of Business Analytics and Artificial Intelligence
PLO #	Program Learning Outcomes
1	Evaluate opportunities for digital transformation and implementation of AI and business analytics in new and existing processes
2	Choose and implement appropriate business analytics and AI tools and methodologies to solve business problems using data-driven decision making practices
3	Synthesize data-driven insights to create impactful presentations and reports for diverse audiences
4	Manage and lead data projects from end to end, recognizing various stages including opportunity recognition, scoping, maintenance, and drift determination
5	Determine appropriate data management principles for database design, data storage, data infrastructure implementation, and administration challenges
6	Evaluate and compare the significance and reliability of competing AI models and business analytics methodologies
7	Create, analyze, and implement AI models, tools, and workflows for business problems utilizing commercial and/or open source technologies
8	Evaluate implications of analytical models from multiple perspectives while identifying issues and challenges associated with strategic value, business ethics, bias, privacy, trust, and equity
9	Research analytics and AI technologies within the context of core business functions, financial processes, economic principles, and management concepts, and make use of the acquired knowledge to analyze and solve business problems

	Degree Level Expectation	Depth and Breadth of Knowledge				Knowledge of Methodologies					Application of Knowledge						Communicat ion Skills	Awareness of Limits of Knowledge			Autonomy and Professional Capacity		
	Program Learning Outcomes	PLO5	PLO6	PLO7	PLO9	PLO1	PLO2	PLO3	PLO6	PLO8	PLO1	PLO2	PLO4	PLO5	PLO7	PLO9	PLO3	PLO4	PLO7	PLO8	PLO1	PLO4	PLO8
Course No.	Course Title																						
BUSI 1030U	Writing & Critical Thinking							1,3,4,5									3,4,5						
BUSI 1600U	Management of the Enterprise									2,4													
BBAI 1650U	Intro to AI in Bus and Soc									2,3,4,7									2,4			3,4,7	
BBAI 1950U	Statistics and Probability for Data Analytics						4,7	1,2,4,7									4,7						
BBAI 1300U	Communicating with Data							1,3,4,7									3,4,7						
BUSI 1520U	Intro to Business Analytics	1,2,4	1,2,4	1,2,4	1,2,4		1,2,4		1,2,4			1,2,4			1,2,4		4		1,2,4				
BBAI 1750U	Intro to Data-Driven Decision Making						2,4										4						
BBAI 1110U	Intro to Programming for Business Analytics and AI	1,4,7	1,4,7	1,4,7										1,4,7			7						
BUSI 2040U	Information Systems	1,4,7			1,4,7											1,4,7							
BBAI 2700U	Fundamentals of AI for Business		1,2,4,7		1,2,4,7				1,2,4,7														
BBAI 2200U	Customer and Marketing Analytics				1,2,4,5,7											2,4,5,7	4,5,7						
BUSI 2500U	Business Simulation & Analytics		2,3,4,7	2,3,4,7	2,3,4,7											2,3,4,7	3,4,7						
BBAI 2950U	Quantitative Skills for Data Analytics and AI	1,2,4												1,2,4			4						
BBAI 2570U	Intro to Geospatial Analytics						1,4					1,4					4						
BUSI 2050U	Managerial Economics				2,4											2,4							
BUSI 2603U	Intro to Operations Management				2,4											2,4							
BBAI 2420U	Principles of Modern Finance: From Electronic Trading to Crypto				1,4,7											1,4,7							
BUSI 2550U	Intro to Project Management					2,3,4,7					2,3,4,7		2,3,4,7				3,7	2,3,4,7			3,4,7	3,4,7	
BUSI 3000U	Business and Sustainability									1,2,4,5										2,4,5			
BBAI 3150U	Foundations of Machine Learning	1,2,4,5		1,2,4,5										1,2,4,5									
BBAI 3750U	Designing AI Systems		3,4,7	3,4,7	3,4,7	3,4,7			3,4,7		3,4,7		3,4,7		3,4,7			3,4,7	3,4,7		3,4,7	3,4,7	
BUSI 3504U	Databases, Data Warehouses & Business Intelligence	1,4,5	1,4,5											4,5			4,5						
BBAI 3650U	Beyond the Hype: Ethical and Legal Issues in Analytics and AI						1,2,4,5,7			1,2,4,5,7		2,4,5,7								2,4,5,7			2,4,5,7
BBAI 3700U	Business Applications of AI		1,2,4,5,7	1,2,4,5,7	1,2,4,5,7		1,2,4,5,7					2,4,5,7			2,4,5,7				2,4,5,7				
BBAI 3550U	Design Thinking and User Experience Design												3,4,5,7				3,4,5,7		3,4,5,7			3,4,5,7	
BUSI 4504U	Advanced Business Intelligence	3,4,7	3,4,7				3,4,7	3,4,7				3,4,7					3,4,7						
BUSI 4040U	Emerging Trends in Technology Management				3,4,5,7																		
BBAI 4800U	Security, Privacy and Trust in AI Systems	2,3,4,5,7								2,3,4,5,7										3,4,5,7			3,4,5,7
BBAI 4500U	Visualization and Storytelling							3,4,5									3,4,5						
BBAI 4700U	Strategic Management of Analytics and AI Systems		1,2,4,5	1,2,4,5	1,2,4,5	1,2,4,5					1,2,4,5		2,4,5					2,4,5			2,4,5	2,4,5	
BBAI 4750U	Leading Digital Transformation				4,5,7	4,5,7					4,5,7		4,5,7					4,5,7			4,5,7	4,5,7	
Various	BBAI Electives																						
XBIT XXXXU	Capstone, Internship, or Venture Creation, or co-op work terms																						

	Introduced
	Reinforced
	Mastered

Assessments - Identify types of relevant assessments and number them (do not have to be in rank order); those listed below are only examples

1 - Test	4 - Assignment	7 - Group project
2 - Exam	5 - Essay	
3 - Presentation	6 - Thesis	

APPENDIX B - Calendar Copy with Program Map

Program: Bachelor of Business Analytics and Artificial Intelligence (BBAI)

General information

The Bachelor of Business Analytics and Artificial Intelligence equips students with the knowledge and expertise to be informed decision makers in public and private sector careers. This unique program combining analytics and AI is guided by the university's 'tech with a conscience' ethos, and emphasizes sustainable business practices, the responsible use of technology in business and society, and ethical AI. The BBAI is a 4 year honours bachelor program. Students complete 5 courses each semester on topics ranging from business, people, and operations analytics to the application and management of AI in various business domains. Students acquire foundational technical and applied skills, while also learning how to act and think responsibly with analytics and AI systems in the broader context of digital/AI transformation. This hybrid program, with the majority of courses delivered in-person and on campus, features capstone, internship, venture creation, co-op, and undergraduate thesis experiential opportunities.

Admission requirements

Admission to the Bachelor of Business Analytics and Artificial Intelligence program 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.

Then include the requirements for Current Ontario secondary school students and statement directing other students:

Current Ontario secondary school students must complete the Ontario Secondary School Diploma (OSSD) with six 4U or 4M credits and a recommended overall average of 70%, including English (ENG4U) with a recommended minimum average of 60 per cent and one of Advanced Functions (MHF4U), Calculus and Vectors (MCV4U) or Mathematics of Data Management (MDM4U) with a recommended minimum average of 70 per cent. It is strongly recommended that students complete two of these math courses.

All other applicants should refer to [admissions](#) for the requirements for their specific category of admission.

Internship program

Internship provides students with the opportunity to obtain paid on-the-job experience with businesses locally and globally. FBIT students apply classroom concepts in a real-world environment and gain valuable and relevant work experience to promote networking and life-long career success. They will also bring their work experience back to the classroom and enrich the learning environment for themselves and their classmates.

Participating employers are given the opportunity to bring the motivated learners, thinkers, and doers of tomorrow into their workplaces, as well as provide valuable mentoring to interns.

Ontario Tech University has a detailed policy document for internships, co-ops and practicum opportunities. Students should review the [policy framework](#) before considering and starting an internship within FBIT. The university policy framework sets the minimum requirements and in addition to these points, FBIT has the following important requirements for its internship program.

FBIT internship requirements

- Internships are at least four months of full-time work (usually 480 hours or more) and maximum of four semesters or 16 months.
- Internships are paid work placements. The intern's wages (stipulated in a contract) are paid by the sponsoring business over the internship.
- Students participating in an internship program may enroll in one course (three credits) per semester. This course must not interfere with the internship schedule outlined by the employer and students may be asked to provide written confirmation from the employer confirming a lack of conflict.
- Students may secure their own internship opportunity with an employer. However, the FBIT Experiential Learning office must approve the opportunity before anything is finalized and the work term is initiated.
- Successful internship completion and a satisfactory verbal and/or written reports throughout the semester will result in the intern receiving a letter grade and three credit hours ([XBIT 4600U](#)) toward their undergraduate degree requirements.
- Students may do a second internship while in the program and the second internship opportunity will count as an elective course ([XBIT 4610U](#)).
- Undergraduate students must return for one semester of full-time studies after their internship before graduation (internship cannot be their final semester).
- Students in the Co-op program are not eligible for internships.

Note: For international internships, the students must coordinate closely with the Experiential Learning office within FBIT before finalizing any details.

FBIT requirements for acceptance into internship (above and beyond university requirements)

- Completion of 54 credit hours (third-year standing) with at least a 2.3 cGPA and the following additional program specific course requirements:
 - BCom - all majors except Technology Management: at least 30 credit hours of BUSI courses.
 - BCom Technology Management major: at least 30 credit hours of BUSI and INFR courses.
 - BBAI: at least 30 credit hours from required courses in the program.
 - BIT Technology Management: at least 30 credit hours of BUSI and INFR courses.
 - BIT Game Development and Interactive Media: at least 30 credit hours of INFR courses.
 - BIT Networking and IT Security: at least 30 credit hours of INFR courses.
 - Clear academic standing.
- Academic misconduct: Students who have a major academic misconduct on file (i.e., sanctions imposed by the Dean and/or Academic Integrity Committee) are not eligible for Internship.

Students with a major academic misconduct can apply for a waiver after one (1) year of the misconduct decision date. Decision for eligibility will be made by the Dean or Dean's designate.

The university and faculty provide numerous resources for students to find internships and succeed in their work placements. However, internship placements are competitive and not guaranteed.

Students are encouraged to review the information on the FBIT website for the most up-to-date information regarding our experiential learning programs including Internship.

BBAI Undergraduate Thesis

To pursue the undergraduate thesis option, a student must complete a two semester thesis project (2 separate and distinct 3 credit hour courses).

Eligibility

To be eligible to apply for a thesis, students must have successfully completed third year (at least 84 credit hours) of the program and have cumulative GPA of 2.7 or better. Applications would require the support of at least one supervising faculty member and approval from the program director.

Thesis requirements

Thesis projects will be limited to a small number of students who are selected by a supervising faculty member and approved by the program director. Thesis research will be conducted over two semesters (fall and winter) and you should commit a minimum of nine hours per week towards this research.

Before the end of the first semester, you will submit a written progress report to your supervisor. Registration in the second course is contingent on a satisfactory grade in the progress report. A failing grade means you will not be able to continue with the thesis project and must register for other elective courses instead. If the undergraduate thesis is used to satisfy the program's experiential learning requirement, students who fail the course must complete another experiential learning component.

You will submit a final written thesis on your project before the end of the winter semester. At the end of the semester there will be a symposium where you will present your work to faculty members and your peers. If you don't submit a thesis, you will receive a fail (F). Requests for special consideration must be submitted to the program director. Extensions for submission may be granted only under exceptional circumstances.

BBAI UG Thesis Application Procedure

Before registering for a thesis course, you must submit an application to your Program Director by May 30 in the third year of your program. Please use the application procedure and form(s) shared by the program. Enrollment in the thesis option is competitive and spots are limited. Students are encouraged to secure a supervisor and project first, before submitting an application. The program may also publish a list of available projects.

Degree and major requirements

To be eligible for the Bachelor of Business Analytics and Artificial Intelligence (Honours) degree, students must successfully complete 120 credit hours, including all courses outlined in the following program map.

Although reasonable efforts will be made to adhere to the following program map, course requirements and term offerings may change. For the most up-to-date list of course offerings, please visit the faculty website at businessandit.ontariotechu.ca.

Degree requirements [120 credit hours]

Year 1

- BUSI 1030U - Writing & Critical Thinking
- BUSI 1600U – Management of the Enterprise
- BBAI 1650U – Intro to AI in Bus and Soc
- BBAI 1950U - Statistics and Probability for Data Analytics
- BBAI 1300U – Communicating with Data
- BUSI 1520U – Intro to Business Analytics
- BBAI 1110U - Intro to Programming for Business Analytics and AI
- BBAI 1750U – Intro to Data-Driven Decision Making
- General Elective
- General Elective

Year 2

- BUSI 2040U – Information Systems
- BBAI 2700U - Fundamentals of AI for Business
- BBAI 2200U – Customer and Marketing Analytics
- BUSI 2500U – Business Simulation and Analytics
- BBAI 2570U – Intro to Geospatial Analytics
- BUSI 2050U – Managerial Economics
- BUSI 2603U - Intro to Operations Management
- BBAI 2420U - Principles of Modern Finance: From Electronic Trading to Crypto
- BBAI 2950U - Quantitative Skills for Data Analytics and AI
- BBAI Elective

Year 3

- BUSI 2550U – Intro to Project Management
- BUSI 3000U – Business and Sustainability
- BBAI 3150U – Foundations of Machine Learning
- BBAI 3750U – Designing AI Systems
- BBAI 3700U – Business Applications of AI
- BUSI 3504U - Databases, Data Warehouses & Business Intelligence
- BBAI 3650U - Ethical and Legal Issues in Analytics and AI
- BBAI 3550U – Design Thinking and User Experience Design
- Open Elective
- BBAI Elective

Year 4

-
- BUSI 4504U – Advanced Business Intelligence
 - BUSI 4040U – Emerging Trends in Technology
 - BBAI 4800U - Security, Privacy and Trust in AI Systems
 - BUSI 4590U – Visualization and Storytelling
 - BBAI 4700U - Strategic Management of Analytics and AI Systems
 - BBAI 4750U - Leading Digital Transformation
 - BBAI Elective
 - BBAI Elective
 - Open Elective
 - XBIT 4500U Capstone or XBIT 4600U Internship or XBIT 4700U Venture Creation or BBAI 4910U/BBAI 4920U BBAI Thesis I&II

2 General electives from courses outside of FBIT.

2 Open electives can be any elective from within or outside FBIT programs.

4 BBAI electives from a list of approved BBAI courses. This list will be updated periodically. Program director may approve BUSI or INFR courses if they align with program requirements and learning outcomes.

BBAI Elective list:

Note: Not all courses are offered every year. FBIT will publish a list of available electives every academic year through academic advising.

- BBAI 1590U – Intro to Design Thinking
- BBAI 1690U – Foundations of Cognitive Science and Psychology for AI *(to be developed at a future date)*
- BBAI 2690U – Technology in Society
- BBAI 3365U - Indigenous Data and OCAP Principles
- BBAI 3610U - Sustainability and Information Technologies
- BBAI 3910U - Analysis of Economic Data
- BBAI 3590U – Robotics and Automation
- BBAI 3570U - Advanced Geospatial Analytics
- BBAI 3930U - Data-Driven Health Systems (aka Health Informatics)
- BBAI 3110U - Data Analytics and Information Systems (DAIS) for Managerial Accounting
- BBAI 3120U - Cloud Services for Analytics and AI
- BBAI 3290U – Intro to Game Theory
- BBAI 3380U - People (HR) Analytics to be developed at a future date)
- BBAI 3690U - AI and Inequality/The Global AI Divide
- BBAI 4790U - Data, AI, and Disruptive Innovation *(to be developed at a future date)*
- BBAI 4542U – Music Analytics
- BBAI 4540U – Game Analytics
- BBAI 4541U – Real Estate Analytics
- BBAI 4548U – Sports Analytics
- BBAI 4990U – Special Topics in Analytics and AI
- BBAI 4120U - Chatbots and Recommendation Engines
- BBAI 4610U – AI for Social Good

Cooperative Education:

Bachelor of Business Analytics and Artificial Intelligence

Co-op program

The Faculty of Business and Information Technology (FBIT) offers the opportunity for eligible students to receive a co-operative education designation on their degrees in the following fields of study:

Benefits of co-operative education

Co-operative education provides many benefits to students including the opportunity to:

- Gain valuable practical experience.
- Earn competitive salaries that partially offset the cost of their education.
- To help clarify career objectives and to develop valuable networking that will enhance opportunities for full-time employment upon graduation.

Applying to co-operative education

Students have the option of applying directly into the co-operative education program from high school or can opt to apply in the winter term of first year. This is the only opportunity to apply for entry into co-op. Any deviation from this timeline will require approval from the dean or designate. Students who apply in first year are accepted based on:

- A minimum cumulative grade point average (cGPA) of 2.70 (B-minus) at time of application.
- Clear academic standing.
- 27 credit hours completed.
- No record of a major misconduct. Students with a record of major misconduct (sanctions imposed by the dean or academic integrity committee) may ask for a waiver after 1 year of the decision. Approval to be granted by the dean or designate.

All students must maintain a cGPA of 2.7 or will be removed from the co-op program. Information on the application process is available from the Experiential Learning Office.

Work terms in co-operative education

Co-operative education placements normally start after the completion of Year 2 of undergraduate studies and must be completed prior to the final term of full-time study. A co-operative education placement can be 3 separate four month work terms, or up to 16 months of full-time continuous work. For 16 months placements, the work term MUST start at the beginning of the spring/summer semester. Students that successfully complete a minimum of three co-op work terms and satisfy all other program requirements are eligible to receive the Co-operative Education designation on their Bachelor of Business Analytics and Artificial Intelligence degree. All completed co-op work terms appear on a student's academic transcript. Students choosing a continuous 12 month or 16 month co-op placement are strongly advised to start at the beginning of the spring semester to avoid significant disruption to their program maps. Those opting to start these placements at a different semester are required to obtain approval from the program director.

Program details and degree requirements

Students wishing to participate in the co-operative education program must meet the admission requirements outlined above. Once accepted, they will be required to complete and pass [XBIT 1000C – Foundations for Success in Co-op](#) (a zero-credit course) and complete at least three co-op work terms ([XBIT 2000W – FBIT Co-op Work Term I](#), [XBIT 3000W – FBIT Co-op Work Term II](#), and [XBIT 4000W – FBIT](#)

[Co-op Work Term III](#)). Students can take up to two additional work terms (up to 5 total) if they choose to do so.

Students must continue to maintain a minimum cGPA of 2.7 to participate in co-op and must complete 27 credit hours by end of first year of studies before they take XBIT1000C and complete a second year of study (54 credit hours in the Bachelor of Business Analytics and Artificial Intelligence (Honours program) before their first co-op work term. While on a co-op work term, a student is allowed to take a maximum of one course, however, this course must not interfere with the full-time work schedule outlined by the employer. The co-op office may require a written approval from the program director and the employer before a student is granted approval to take a course while on their work term. If a student in the co-op stream commits a major academic misconduct, they will be removed from the co-op program.

In order to graduate from the Bachelor of Business Analytics and Artificial Intelligence program Co-op (Honours) program, students must satisfy all BBAI degree requirements and all co-op requirements.

All completed co-op work terms appear on a student's academic transcript. While Ontario Tech cannot guarantee a co-op placement, assistance, advice and counselling are provided to all students enrolled in the co-operative education program by the co-op coordinator. Students should carefully review their work term(s) sequence, length, and position in the program map to determine the impact on their graduation date. Students cannot complete all their co-op work terms in the same season (all in spring/summer terms). Depending on the timing and length of work terms, graduation may be delayed. Students must return to school for a minimum of one full-time semester before graduation to meet the requirements of the co-op program.

Specific details regarding the co-op program, policies, important dates, requirements, and student resources are available through the University and Faculty experiential learning website.

Co-op courses

- [XBIT 1000C – Foundations for Success in Co-op](#)
- [XBIT 2000W – FBIT Co-op Work Term I](#)
- [XBIT 3000W – FBIT Co-op Work Term II](#)
- [XBIT 4000W – FBIT Co-op Work Term III](#)
- [XBIT 4100W – FBIT Co-op Work Term IV](#)
- [XBIT 4200W – FBIT Co-op Work Term V](#)

Anticipated Program Map

YEAR ONE				
BUSI 1030U Writing & Critical Thinking	BUSI 1600U Management of the Enterprise	BBAI 1650U Intro to AI in Business and Society	BBAI 1950U Statistics and Probability for Data Analytics	General Elective
BBAI 1300U Communicating with Data	BUSI 1520U Intro to Business Analytics	BBAI 1750U Intro to Data-Driven Decision Making	BBAI 1110U Intro to Programming for Business Analytics and AI	General Elective
YEAR TWO				
BUSI 2040U Information Systems	BBAI 2700U Fundamentals of AI for Business	BBAI 2200U Customer and Marketing Analytics	BUSI 2500U Business Simulation & Analytics	BBAI 2950U Quantitative Skills for Data Analytics and AI
BBAI 2570U Intro to Geospatial Analytics	BUSI 2050U Managerial Economics	BUSI 2603U Intro to Operations Management	BBAI 2420U Principles of Modern Finance: From Electronic Trading to Crypto	BBAI Elective
YEAR THREE				
BUSI 2550U Intro to Project Management	BUSI 3000U Business and Sustainability	BBAI 3150U Foundations of Machine Learning	BBAI 3750U Designing AI Systems	Open Elective
BUSI 3504U Databases, Data Warehouses & Business Intelligence	BBAI 3650U Ethical and Legal Issues in Analytics and AI	BBAI 3700U Business Applications of AI	BBAI 3550U Design Thinking and User Experience Design	BBAI Elective
YEAR FOUR				
BUSI 4504U Advanced Business Intelligence	BBAI 4800U Security, Privacy and Trust in AI Systems	BUSI 4040U Trends in Technology Management	BBAI Elective	BBAI Elective
BBAI 4500U Visualization and Storytelling	BBAI 4700U Strategic Management of Analytics and AI Systems	BBAI 4750U Leading Digital Transformation	Open Elective	XBIT 4500U Capstone or XBIT 4600U Internship or XBIT 4700U Venture Creation or BBAI 4910U/4920U - UG Thesis I and II

Appendix C - List of Program Courses

New Courses (see C.1 – New Course Proposals)

BBAI 1950U	Statistics and Probability for Data Analytics
BBAI 1110U	Intro to Programming for Business Analytics and AI
BBAI 1650U	Intro to AI in Bus and Soc
BBAI 1750U	Intro to Data-Driven Decision Making
BBAI 1690U	Foundations of Cognitive Science and Psychology for AI (to be developed at a future date)
BBAI 2200U	Customer and Marketing Analytics
BBAI 2950U	Quantitative Skills for Data Analytics and AI
BBAI 2570U	Intro to Geospatial Analytics
BBAI 2420U	Principles of Modern Finance: From Electronic Trading to Crypto
BBAI 2690U	Technology in Society
BBAI 1590U	Intro to Design Thinking
BBAI 3150U	Foundations of Machine Learning
BBAI 3750U	Designing AI Systems
BBAI 3550U	Design Thinking and User Experience Design
BBAI 3570U	Advanced Geospatial Analytics
BBAI 3365U	Indigenous Data and OCAP Principles
BBAI 3610U	Sustainability and Information Technologies
BBAI 3910U	Analysis of Economic Data
BBAI 3590U	Robotics and Human Robot Interaction
BBAI 3930U	Data-Driven Health Systems (aka Health Informatics)
BBAI 3110U	Data Analytics and Information Systems (DAIS) for Managerial Accounting
BBAI 3120U	Cloud Services for Analytics and AI
BBAI 3380U	People (HR) Analytics(to be developed at a later date)
BBAI 4500U	Visualization and Storytelling
BBAI 4750U	Leading Digital Transformation
BBAI 4800U	Security, Privacy and Trust in AI Systems
BBAI 4700U	Strategic Management of Analytics and AI Systems
BBAI 3690U	AI and Inequality/The Global AI divide
BBAI 3290U	Introduction to Game Theory
BBAI 4540U	Game Analytics
BBAI 4541U	Real Estate Analytics
BBAI 4548U	Sports Analytics
BBAI 4790U	Data, AI, and Disruptive Innovation (to be developed at a later date)
BBAI 4120U	Chatbots and Recommendation Engines
BBAI 4990U	Special Topics in Analytics and AI

BBAI 4610U	AI for Social Good
BBAI 4542U	Music Analytics
BBAI 4910U/4920U	BBAI Thesis I&II

Existing Course: (see C.2 Existing Course Descriptions)

BUSI 1030U	Writing & Critical Thinking
BUSI 1520U	Intro to Business Analytics
BUSI 1600U	Management of the Enterprise
BUSI 2040U	Information Systems
BUSI 2050U	Managerial Economics
BUSI 2500U	Business Simulation & Analytics
BUSI 2550U	Intro to Project Management
BUSI 2603U	Introduction to Operations Management
BUSI 3000U	Business and Sustainability
BUSI 3504U	Databases, Data Warehouses & Business Intelligence
BUSI 4040U	Emerging Trends in Technology Management
BUSI 4504U	Advanced Business Intelligence
XBIT 1000C	Foundations for Success in Co-op
XBIT 2000W	FBIT Co-op Work Term I
XBIT 3000W	FBIT Co-op Work Term II
XBIT 4000W	FBIT Co-op Work Term III
XBIT 4100W	FBIT Co-op Work Term IV
XBIT 4200W	FBIT Co-op Work Term V
XBIT 4500U	Capstone
XBIT 4600U	Internship
XBIT 4700U	Venture Creation

C3 - Course Changes

BBAI 1300U	Communicating with Data
BBAI 2700U	Fundamentals of AI for Business
BBAI 3650U	Ethical and Legal Issues in Analytics and AI
BBAI 3700U	Business Applications of AI
BUSI 2603U	Introduction to Operations Management

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 1100U

*ensure the course code has not been previously used

Full Course Title: Intro to Programming for Business Analytics and AI

Short-Form Course Title (max. 30 characters): **Programming for BA and AI**

Course Description

This course provides a foundational introduction to programming for first-year students with a focus on applications in Business Analytics and Artificial Intelligence. Students will develop practical coding skills while gaining a solid understanding of basic programming techniques and data structure design principles. Through hands-on exercises and programmatically solving real-world case studies, learners will explore how to efficiently organize, process, and retrieve data to support analytical decision-making and intelligent automation. By the end of the course, students will be able to understand the basic of programming, write structured programs using built-in AI and BA libraries, interact with databases through code, and apply appropriate data structures to solve business problems using analytical and AI-driven techniques.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial: 1.5	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

- Weekly tutorial tasks based on lecture content (27%)
- Bi-weekly Quizzes (18%)
- Class activities (problem solving based on case-studies) – 10%
- Test-1 (Based on 1-6 Lectures) (12.5%)

- Group Project (20%)
- Test-2 (Based on 7-11 Lectures) (12.5%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon successful completion of this course, students will:

- Demonstrate foundational programming skills by writing structured codes to solve problems.
- Develop a problem-solving logic adequate for information technology professionals.
- Apply basic programming techniques and data structure design principles to organize, process, and retrieve data efficiently.
- Interact with databases programmatically to support analytical decision-making and automation.
- Analyze real-world case studies and implement appropriate data structures and algorithms to address challenges in business analytics and AI applications.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 1590U

*ensure the course code has not been previously used

Full Course Title: Intro to Design Thinking

Short-Form Course Title (max. 30 characters): **Design Thinking**

Course Description

This course introduces students to the concept of design thinking, a non-linear, iterative process that teams can use to understand users, challenge assumptions, redefine problems, and create innovative solutions to prototype and test. This empathy-based process involves five phases - empathize, define, ideate, prototype and test – and can be used to tackle ill-defined or unknown problems. In design thinking, cross-functional teams work together to understand user needs and create solutions that address those needs. Students will learn how to understand problems and needs, to apply design thinking to analytics and AI challenges, and to use visual prototyping to think creatively around pain points and opportunity areas.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Team Introduction and Contract = 5%
- Team Research Paper = 10%
- 5 Individual Quizzes/assignments = 10%
- 3 Group Video Assignments = 30%
- Client Session Preparation = 10%
- Final Pitch = 20%

- Individual Reflection = 15%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Understand the elements of a design thinking framework and how it can be applied to various analytics and AI contexts
- Apply strategies like diagramming and storytelling to analytical practices
- Develop the ability to understand clients and their underlying needs and values, and be able to recommend solutions
- Implement the tools of design thinking to analytics and AI challenges
- Apply the correct use of the five stages of design thinking to an analytics or AI project

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

N/A

Subject Code: BBAI

Course Number: 1650U

*ensure the course code has not been previously used

Full Course Title:

Introduction to Artificial Intelligence (AI) in Business and Society

Short-Form Course Title (max. 30 characters):

Intro to AI in Business and Society

Course Description

This course examines the fundamental concepts, origins, applications, and implications of artificial intelligence (AI) across various aspects of economic and social life. Special attention is given to the role of AI in organizations as businesses adapt to emerging systems and technologies. Students will explore the social, ethical, and environmental dimensions of AI, considering how it transforms work, economic activity, and human interaction. The course design will encourage students to critically review and assess AI technologies, communicate their benefits and risks, and envision responsible and innovative uses of AI in contemporary business and society.

Credit Hours: 3

Contact Hours – please indicate total number of hours for each component

Lecture: 3

Lab: 0

Tutorial: 0

Other: 0

Cross-listings

Prerequisites for Calendar

Prerequisites for Banner

Co-requisites

**Prerequisites with concurrency
(pre or co-requisite)**

Credit restrictions

☐ **Equivalency***

Recommended Prerequisites

Course Restrictions

Course Type

☒ **Core**

☐ **Elective**

☐ **Core or Elective**

Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)

Grading scheme

☒ **N (normal alpha grade)**

☐ **P (pass/fail)**

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

Reflection and case analysis assignments (~20%)

Class activities and contribution (~15%)

Group project(s) (~20%)

Term exam(s) (~15%)
Final assessment (~30%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

- Explain key concepts, origins, and approaches in artificial intelligence (AI), including how these systems learn, are trained, and make decisions.
- Describe and analyze how AI is transforming business, economic activity and social life, and the role data plays in this transformation.
- Evaluate real-world AI applications and identify the risks, benefits and limits.
- Assess the current and future impact of AI on work, economic activity, human interactions, governance, and the environment.
- Identify and evaluate the ethical and legal challenges in AI, including bias, privacy, transparency, and sustainability.
- Communicate perspectives on AI's role in society and business through oral and written analysis, displaying critical awareness of opportunities and threats.
- Propose responsible and creative uses for AI that address real life or simulated social, environmental, or business opportunities and challenges.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

This course is part of a new degree proposal and was included in the consultation for that program. Please refer to the main program proposal for consultation details.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No **Please explain:**

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 1750U

*ensure the course code has not been previously used

Full Course Title: Introduction to Data-Driven Decision Making

Short-Form Course Title (max. 30 characters): **Intro Data-Driven Decision Making**

Course Description

Data-driven decision making is the ability to effectively transform information into actionable knowledge by collecting, analyzing and interpreting various types of data. Data-driven decision making skills are crucial for participating in the knowledge economy. In this course, students will learn how to make data-driven business decisions and develop data literacy skills. Data literacy is the ability to collect, manage, evaluate, and apply data, in a critical manner. This course introduces students to various forms of data, how it is collected, stored and manipulated for business insights. The emphasis of this course is on critical thinking while working with data analytics. Various software tools and data sources will be used by students in hands-on assignments.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture:	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments – 30%
Midterm – 20%
Final Exam- 50%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Students will learn:

- how to interpret data from different sources
- how to convert data into actionable insight
- what different types of data are and how they are stored
- how to evaluate the reliability of data
- how to think critically about data analytics
- how to interpret the validity of data-based arguments
- how to weigh the merit and impacts of possible decisions

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

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Faculty:
Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-28

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 1950U

*ensure the course code has not been previously used

Full Course Title:

Statistics and Probability for Data Analytics

Short-Form Course Title (max. 30 characters):
Statistics and Probability for Data Analytics

Course Description

This course introduces probability and statistics with an emphasis on data-driven decision-making in business analytics and AI contexts. Topics include descriptive statistics; probability laws; random variables and common distributions; sampling and statistical inference; estimation and confidence intervals; hypothesis testing; correlation and simple/multiple regression; model diagnostics; uncertainty quantification; and A/B/n testing. Students apply methods using real-world business datasets to build reliable, interpretable models and communicate insights to technical and executive audiences through clear visuals and narratives. Ethical use of data and recognition of bias, privacy, and fairness considerations are integrated throughout via cases and labs. (Tools: Python or R with reproducible notebooks; basic spreadsheet for comparison.) (Alignment with BBAI PLOs: statistical concepts & techniques; visualization & storytelling; evaluating model reliability; responsible analytics).

Credit Hours: 3.0			
Contact Hours – please indicate total number of hours for each component			
Lecture: 3.0		Lab:	
Tutorial:		Other:	
Cross-listings			
Prerequisites for Calendar			
Prerequisites for Banner			
Co-requisites			
Prerequisites with concurrency (pre or co-requisite)			
Credit restrictions	☐ Equivalency*		
Recommended Prerequisites			
Course Restrictions			
Course Type	☒ Core	☐ Elective	☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)			
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)		

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

- Weekly problem sets (concepts & short applications)
- Software labs using real datasets (reproducible notebooks)
- Two term tests (applied inference & regression)

- Term project: design and defend an A/B test or predictive regression for a business question; submit executive brief + technical appendix; in-class presentation (visualization/storytelling focus)
- Low-stakes quizzes to reinforce fundamentals

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

- Summarize and visualize data appropriately, selecting charts and narratives suited to diverse audiences (executives vs. technical).
- Apply probability concepts (random variables, distributions, law of large numbers/CLT) to reason about uncertainty in business contexts.
- Conduct statistical inference (point/interval estimation, hypothesis testing) and correctly interpret p-values, CIs, power, and effect sizes.
- Build and evaluate regression models (diagnostics, multicollinearity checks, residual analysis) and communicate limitations and reliability.
- Design and analyze experiments (A/B/n testing) and sampling strategies to support data-driven decisions.
- Compare analytics/AI methodologies for a given business problem and justify tool/method choices using statistical evidence.
- Recognize and mitigate issues of bias, fairness, privacy, and ethical risk in data, models, and communication.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	X
Consulting project/workplace project		Applied Research	X
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

N/A

Subject Code: BBAI

Course Number: 2200U

**ensure the course code has not been previously used*

Full Course Title:

Customer and Marketing Analytics

Short-Form Course Title (max. 30 characters):

Customer and Marketing Analytics

Course Description

This course introduces students to the principles and practices of customer analytics as a foundation for effective marketing management. Students will learn about core marketing concepts such as segmentation, targeting, positioning, consumer behaviour, marketing mix, and marketing strategy with emphasis on how insights gained from data analytics can impact these activities/functions. The course focuses on the collection, analysis, and interpretation of customer data to support evidence-based marketing decisions. Students will also engage with fundamental tools, concepts, and channels of digital marketing, and participate in hands-on activities, case studies, and lectures to explore how analytics is used to design and evaluate marketing initiatives, measure campaign performance using key metrics, and integrate ethical and privacy considerations into the use of customer data.

Credit Hours: 3

Contact Hours – please indicate total number of hours for each component

Lecture: 3

Lab: 0

Tutorial: 0

Other: 0

Cross-listings

Prerequisites for Calendar

BUSI1520U AND BUSI1600U

Prerequisites for Banner

BUSI1520U AND BUSI1600U

Co-requisites

**Prerequisites with concurrency
(pre or co-requisite)**

Credit restrictions

BUSI3503U

☐ **Equivalency***

Recommended Prerequisites

Course Restrictions

Course Type

☒ **Core**

☐ **Elective**

☐ **Core or Elective**

Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)

Grading scheme

☒ **N (normal alpha grade)**

☐ **P (pass/fail)**

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

This course utilizes lectures, assignments, case studies, and in-class interactive activities to explore customer analytics within the context of digital marketing.

Applied and/or case analysis assignments (~20%)

Class activities and contribution (~15%)

Group project(s) (~20%)

Term exam(s) (~15%)

Final assessment (~30%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon successful completion of this course, students will be able to:

- Demonstrate an introductory understanding of core marketing concepts.
- Analyze consumer behavior and decision-making processes in both traditional and digital contexts to inform marketing decisions.
- Describe how customer analytics support marketing decision making in traditional and digital environments.
- Interpret key marketing metrics such as brand awareness, customer lifetime value, retention rate, and conversion rate.
- Recognize the role of digital channels in collecting and analyzing customer data and supporting marketing decisions.
- Apply basic analytical techniques to understand customer behavior and evaluate marketing initiative performance.
- Develop and communicate marketing recommendations based on data-driven customer insights and digital metrics.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

This course is part of a new degree proposal and was included in the consultation for that program. Please refer to the main program proposal for consultation details.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No **Please explain:**

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty:

Faculty of Business and Information Technology

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number:

2420U

Full Course Title: Principles of Modern Finance From Electronic Trading to Crypto

Short-Form Course Title (max. 30 characters):

Course Description

This course explores how finance works in today's rapidly evolving markets. Students learn the core ideas of modern finance—like pricing, risk, and market efficiency—while also examining new technologies that are transforming the field. Topics range from electronic and algorithmic trading to blockchain, cryptocurrencies, and decentralized finance. By the end, students will understand both the foundations of financial systems and the opportunities and risks created by financial innovation.

Credit Hours:3.0			
Contact Hours – please indicate total number of hours for each component			
Lecture:3.0		Lab:	
Tutorial:1.5		Other:	
Cross-listings			
Prerequisites for Calendar			
Prerequisites for Banner			
Co-requisites			
Prerequisites with concurrency (pre or co-requisite)			
Credit restrictions	☐ Equivalency*		
Recommended Prerequisites			
Course Restrictions			
Course Type	☒ Core ☐ Elective ☐ Core or Elective		
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)			
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)		

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Weekly tutorial tasks based on lecture content (27%)
- Bi-weekly Quizzes (18%)
- Class activities (problem solving based on case-studies) – 10%
- Test-1 (Based on 1-6 Lectures) (12.5%)
- Group Project (20%)
- Test-2 (Based on 7-11 Lectures) (12.5%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

By the end of this course, students will be able to:

1. **Explain core concepts** of modern finance, including asset pricing, market efficiency, and risk-return tradeoffs.
2. **Describe and evaluate** the role of electronic and algorithmic trading in today's markets.
3. **Analyze financial innovations** such as blockchain, cryptocurrencies, and decentralized finance.
4. **Apply financial principles** to assess both traditional and digital assets.
5. **Critically assess risks and opportunities** created by financial technologies and new trading mechanisms.
6. **Discuss regulatory and ethical implications** of emerging financial systems.
7. **Integrate theory with practice** through case studies, simulations, or applied exercises that bridge classic finance with technological innovation.

Does this course contain any experiential learning components? ☐ Yes ☐ No

If yes:

Case Study	x	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No Please explain:

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 2570U

*ensure the course code has not been previously used

Full Course Title: Introduction to Geospatial Analytics

Short-Form Course Title (max. 30 characters): **Geospatial Analytics I**

Course Description

Analyzing, visualizing, and mapping geospatial data are increasingly important competencies that business analysts must acquire. Being able to understand topics like supply chain capacity, economic disruption, and geopolitical instability through the lens of spatial data science can ensure that an analyst recognizes business risks from opportunities.

This course will introduce students to geographic information systems (e.g. QGIS, ArcGIS, Foursquare Studio) and programming tools (e.g. spatial analysis libraries in R and Python), as well as geospatial visualization techniques (e.g. thematic maps), that can be deployed for business analytics. Through applied projects with real-world datasets, students will add essential geospatial methods to their analytics toolboxes.

Credit Hours: 3.0			
Contact Hours – please indicate total number of hours for each component			
Lecture: 3.0		Lab:	
Tutorial:		Other:	
Cross-listings			
Prerequisites for Calendar			
Prerequisites for Banner			
Co-requisites			
Prerequisites with concurrency (pre or co-requisite)			
Credit restrictions	☐ Equivalency*		
Recommended Prerequisites			
Course Restrictions			
Course Type	☒ Core ☐ Elective ☐ Core or Elective		
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)			
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)		

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- 10 short weekly quizzes based on lecture content. (2% each for 20%)
- Each week, in-class tutorials will focus on technical skill acquisition. From the 10 tutorials, students will select 3 to modify or extend with different datasets and/or methods. Students will then submit these for peer and instructor feedback. (15% each for 45%)

- Mid-term test (15%)
- Final individual data analysis project (20%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Understand the fundamentals of geospatial analytics, including how businesses can increasingly make use of it;
- Discover, access, and process geospatial data from various sources;
- Select basic spatial analysis methods (e.g. spatial regression, clustering) and apply them to business cases;
- Use modern GIS software applications to analyze and visualize geospatial data for a variety of outputs (including dashboards, story maps, and immersive experiences);
- Choose appropriate geospatial visualization techniques for different interfaces and contexts;
- Design custom data-driven analyses and reports using techniques that are scalable to real-world contexts.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No **Please explain:**

Select datasets to be analyzed in this course will focus on improving outcomes for equity-deserving and marginalized groups.

Does this course 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?

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 2690U

*ensure the course code has not been previously used

Full Course Title: Technology in Society

Short-Form Course Title (max. 30 characters): **Tech in Society**

Course Description

This course is an introduction to the social, cultural, economic, and political dimensions of technology in society. Students will explore various impacts of technological change, including disruption to political systems, innovation and adaptation in economic systems, and sociocultural transformation. The course will examine historical and modern case studies, from the development of nuclear weapons and energy to the advent of personal computing. These case studies and their impacts will be brought to bear on contemporary analytics and AI technologies and their influence in a transforming world.

Credit Hours: 3.0			
Contact Hours – please indicate total number of hours for each component			
Lecture: 3.0		Lab:	
Tutorial:		Other:	
Cross-listings			
Prerequisites for Calendar			
Prerequisites for Banner			
Co-requisites			
Prerequisites with concurrency (pre or co-requisite)			
Credit restrictions	☐ Equivalency*		
Recommended Prerequisites			
Course Restrictions			
Course Type	☒ Core ☐ Elective ☐ Core or Elective		
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)			
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)		

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Mid-term exam: 35%
- Movie review: 15%
- Final exam: 40%
- Discussion: 10%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Understand important concepts and theories from disciplines like digital media studies and science and technology studies (e.g. technological determinism);
- Analyze the development of data analytics and artificial intelligence technologies through a historical lens that can also be applied to past technological developments;
- Articulate how analytics and AI technologies are shaped by social, cultural, economic, and political trends;
- Explain the different components of crucial literacies needed examine analytics and AI from a critical perspective (e.g. media literacy; data literacy);
- Reflect on their own use, consumption, management, and even development of analytics and AI technologies and recognize various responsibilities that come with respect to these dimensions.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty:

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☐ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 2950U

*ensure the course code has not been previously used

Full Course Title:

Quantitative Skills for Data Analytics and AI

Short-Form Course Title (max. 30 characters):

Quantitative Skills for Data Analytics and AI

Course Description

This course equips students with essential quantitative and mathematical tools foundational to advanced data analytics and artificial intelligence. Emphasizing practical problem-solving, students explore linear algebra, matrix operations, vector spaces, and optimization methods crucial for understanding and implementing machine learning algorithms. Topics include systems of linear equations, eigenvalues and eigenvectors, singular value decomposition, gradient descent, convex optimization, and numerical methods for function approximation. Students will develop algorithmic thinking and computational skills by applying these concepts using programming environments (such as Python) to real-world business datasets. The course also covers model formulation techniques to translate complex business problems into solvable mathematical optimization tasks, including linear, integer, and nonlinear programming.

Credit Hours:

Contact Hours – please indicate total number of hours for each component

Lecture:

Lab:

Tutorial:

Other:

Cross-listings

Prerequisites for Calendar

Prerequisites for Banner

Co-requisites

**Prerequisites with concurrency
(pre or co-requisite)**

Credit restrictions

☐ **Equivalency***

Recommended Prerequisites

Course Restrictions

Course Type

☐ **Core**

☐ **Elective**

☐ **Core or Elective**

Is the course: ☐ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)

Grading scheme

☐ **N (normal alpha grade)**

☐ **P (pass/fail)**

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)

HYB (In Class and Online Delivery)

IND (Individual Studies)

OFF (Off Site)

WB1 (Virtual Meet Time – Synchronous)

WEB (Fully Online – Asynchronous)

Not Applicable

Teaching and assessment methods:

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

1. Demonstrate proficiency in fundamental linear algebra concepts such as matrix operations, vector spaces, eigenvalues, and eigenvectors relevant to data analytics and AI.
2. Apply numerical methods and optimization techniques (e.g., gradient descent, convex optimization) to solve quantitative problems in business contexts.
3. Formulate and solve linear, integer, and nonlinear programming problems to model complex decision-making scenarios in analytics and AI.
4. Translate real-world business problems into mathematical models suitable for computational solution and analysis.
5. Utilize programming tools (e.g., Python with NumPy/SciPy) to implement quantitative algorithms and perform matrix computations efficiently.
6. Interpret the mathematical and computational foundations of machine learning algorithms, enabling informed application and critique.
7. Develop algorithmic thinking to design, test, and optimize quantitative solutions for large-scale business datasets.
8. Evaluate the accuracy and stability of numerical methods and optimization routines applied in data analytics workflows.
9. Communicate quantitative findings clearly and effectively, using appropriate visualizations and narratives tailored to technical and non-technical audiences.
10. Understand ethical considerations related to the mathematical modeling and algorithmic implementation in business analytics and AI, including fairness and bias mitigation strategies.

Does this course contain any experiential learning components? ☐ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3110U

*ensure the course code has not been previously used

Full Course Title: Data Analytics and Information Systems (DAIS) for Managerial Accounting

Short-Form Course Title (max. 30 characters): **DAIS for Managerial Accounting**

Course Description

Data analytics and information systems (DAIS) are now core competencies in accounting. Topics that future accountants are expected to be familiar with include systems concepts, data and information modelling, and the presentation of information for decision making. At the same time, artificial intelligence tools and methods are beginning to disrupt and unsettle professional accounting practice. This course will introduce students to the various DAIS topics they will be expected to know in managerial accounting contexts, and will introduce them to some of the analytics and AI tools and platforms that professional accountants are now expected to work with.

Credit Hours: 3.0			
Contact Hours – please indicate total number of hours for each component			
Lecture: 3.0		Lab:	
Tutorial:		Other:	
Cross-listings			
Prerequisites for Calendar			
Prerequisites for Banner			
Co-requisites			
Prerequisites with concurrency (pre or co-requisite)			
Credit restrictions	☐ Equivalency*		
Recommended Prerequisites			
Course Restrictions			
Course Type	☒ Core	☐ Elective	☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)			
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)		

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Mid-term examination = 30%
- Data analysis and copilot workflow = 10%
- Accounting dashboard development = 10%
- Data-driven report for decision makers = 10%
- Final examination = 40%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Demonstrate an understanding of core principles and concepts associated with data analytics and information systems;
- Be able to recognize data visualization and dashboard design principles association with the presentation of information for decision making;
- Make use of market-leading analytics and business intelligence software including, but not limited to, Microsoft Power BI; and develop workflows with more common accounting tools (e.g. Microsoft Excel);
- Demonstrate analytical, problem solving, and critical thinking skills related to data-driven decision making.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Winter 2028

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3120U

*ensure the course code has not been previously used

Full Course Title: Cloud Services for Analytics and AI

Short-Form Course Title (max. 30 characters): **Cloud for Data & AI**

Course Description

Cloud computing has transformed how businesses store, access, and analyze data, and how they deploy artificial intelligence applications. As cloud services play an essential role in transforming data into insights and enabling AI applications, understanding cloud technologies is crucial for students in this field.

This introductory course will cover the fundamentals of cloud services, focusing on core concepts like cloud infrastructure, deployment models, and service models. Students will be introduced to major cloud providers (AWS, Microsoft Azure, Google Cloud) and learn how cloud services can be used for data storage, processing, and deploying AI models.

The course will cover basic cloud architecture, including compute resources, cloud storage, and networking. Students will explore the differences between IaaS, PaaS, and SaaS models and how they are applied in data analytics and AI contexts. Through hands-on lectures and projects, students will learn how to provision resources, use cloud tools for data analytics, and build simple AI workflows in the cloud.

Credit Hours: 3.0			
Contact Hours – please indicate total number of hours for each component			
Lecture: 3.0		Lab:	
Tutorial:		Other:	
Cross-listings			
Prerequisites for Calendar			
Prerequisites for Banner			
Co-requisites			
Prerequisites with concurrency (pre or co-requisite)			
Credit restrictions	☐ Equivalency*		
Recommended Prerequisites			
Course Restrictions			
Course Type	☒ Core	☐ Elective	☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)			
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)		

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)		HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Weekly quizzes and hands-on activities on cloud technologies, including provisioning cloud resources, setting up cloud-based storage, and deploying basic AI workflows (20%)
- Group project: Design and present a cloud-based pipeline solution for a data analytics or AI use in a real-world scenario (35%)
- Midterm: to cover the theoretical content of the course (25%)
- Peer review and feedback on group projects (10%)
- Final reflection and portfolio submission: Documentation of skills, tools used, and ethical considerations (10%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon successful completion of this course, students will:

- Understand the fundamentals of cloud computing, including key concepts such as cloud architecture, service models (IaaS, PaaS, SaaS), and deployment models (public, private, hybrid clouds).
- Understand the role of cloud computing in data analytics and AI.
- Learn to provision cloud resources, such as virtual machines, storage, and network services, to support data analytics and AI workloads.
- Navigate major cloud platforms (AWS, Microsoft Azure, Google Cloud) and understand their specific strengths in supporting business and AI applications.
- Develop basic data pipelines in the cloud, involving data storage, transformation, and analysis using cloud-based tools and services.
- Deploy AI models in the cloud environment, using platform-specific tools to create machine learning workflows.
- Collaborate in teams to design business-oriented solutions using cloud technology for AI-driven analytics.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	X
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No **Please explain:**

Case studies will include diverse industries and international contexts, including small business and public sector applications.

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

N/A

Subject Code: BBAI

Course Number: 3150U

*ensure the course code has not been previously used

Full Course Title:

Foundations of Machine Learning

Short-Form Course Title (max. 30 characters):

Machine Learning Foundations

Course Description

This course introduces students to how machines learn from data and make decisions related to various aspects of life – such as product recommendations, chatbots, medical diagnosis, and robotics. Students learn about computer systems and algorithms that classify, cluster, recognize patterns, and make predictions on data that the system has never seen before and how these systems adapt over time. The course is designed for a non-technical student population and emphasis is placed on understanding concepts, exploring real world applications, and critical evaluation of social, ethical, and economic implication of intelligent systems. Students are given basic exposure to python programming and introductory mathematical foundations to further introduce the building blocks of machine learning. Class structure focuses on case studies, activities, and discussions related to real world applications of machine learning.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: 0
Tutorial: 0	Other: 0
Cross-listings	
Prerequisites for Calendar	BBAI1XXXU – Statistics for Analytics and AI
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	INFR3700U ☒ Equivalency*
Recommended Prerequisites	
Course Restrictions	INFR3700U
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

This course utilizes lectures, case studies, and in-class interactive activities to explore how AI and Analytics enable business models, lead to competitive advantage, and support decision-making.

Individual and Group Assignments (~30%)

Class activities and contribution (~15%)

Term exam(s) (~25%)

Final assessment (~30%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

- Explain how machines interpret and learn from data to make predictions in various contexts.
- Differentiate between various types of machine learning and explore their real-world applications.
- Evaluate the outputs of machine learning systems and identify potential biases, risks, benefits.
- Assess the ethical, legal, and economic implications of machine learning within society and business.
- Connect machine learning concepts to various business functions and tools used in marketing, finance, accounting, and operations.
- Communicate insights related to machine learning and its applications to a non-technical business audience.
- Apply knowledge of machine learning by creating conceptual solutions for everyday business opportunities and challenges.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

This course is part of a new degree proposal and was included in the consultation for that program. Please refer to the main program proposal for consultation details.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and Artificial Intelligence

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI	Course Number: 3290U
Full Course Title: Introduction to Game Theory	
Short-Form Course Title (max. 30 characters): Intro to Game Theory	

Course Description

This course introduces students to the mathematical study of game theoretical concepts used in strategic decision-making contexts. It will equip students with the tools to model and predict behavior in competitive and cooperative environments. Students will explore foundational concepts including normal and extensive form games, dominant strategies, Nash equilibria, and mixed strategies, before progressing to applications in mechanism design, auctions, bargaining, and multi-agent systems. Special emphasis is placed on the intersection of game theory with artificial intelligence, including algorithmic game theory, adversarial modeling, and the design of incentive-compatible AI systems.

Through case studies drawn from pricing strategy, supply chain negotiation, and platform competition, students will develop both analytical rigor and practical intuition for reasoning about rational and boundedly rational agents.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: Noi
Tutorial: No	Other:
Cross-listings	
Prerequisites for Calendar	BBAI 1950U – Statistics and Probability for Data Analytics
Prerequisites for Banner	BBAI 1950U – Statistics and Probability for Data Analytics
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☒ Elective ☐ Core or Elective
Is the course:	☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery) X		HYB (In Class and Online Delivery) X	
IND (Individual Studies) X		OFF (Off Site) X	
WB1 (Virtual Meet Time – Synchronous) X		WEB (Fully Online – Asynchronous) X	
Not Applicable			

Teaching and assessment methods:

Instruction will use in-class lectures supported by discussion-based case analyses, review of selected industry and research papers, and structured hands-on activities.

- 3 Quizzes: 30%
- Individual Case Analysis Project: 25%
- Collaborative Project – Model Competitive Dynamics Between Two Selected Platforms: 35%
- Contribution to Discussion: 10%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](https://teachingandlearning.ontariotechu.ca/), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Model strategic interactions, identifying players, strategies, payoffs, and information structures across a range of business and technological contexts.
- Identify and compute equilibria, including dominant strategies, pure and mixed strategy Nash equilibria, and subgame perfect equilibria.
- Analyze cooperative and non-cooperative settings, distinguishing when agents benefit from coordination.
- Apply game-theoretic models to business problems, including oligopoly pricing, auctions, contract design, platform competition, and supply chain negotiations.
- Connect game theory to artificial intelligence, explaining how multi-agent systems, adversarial machine learning, and reinforcement learning draw on strategic reasoning, and apply basic algorithmic game theory concepts to AI design problems.
- Evaluate the limits of rational actor assumptions, incorporating concepts of bounded rationality, behavioral game theory, and empirical findings that challenge classical equilibrium predictions.
- Design simple mechanisms and incentive structures that align individual behavior with desired outcomes.
- Communicate strategic analysis clearly, presenting well-reasoned recommendations derived from formal models to both technical and non-technical audiences through written reports and in-class discussion.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

BBAI 3290U is part of the group of BBAI electives which students will have the opportunity to opt for. The electives category in the BBAI program are outlined in the proposal package itself and it currently going through the various governance steps to become a fully approved program. It is currently at the USC step as of April 2026.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

This course follows Ontario Tech's policies surrounding Equity, diversity and inclusion.

Does this course 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

Financial Implications

None

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BBAI

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3365U

*ensure the course code has not been previously used

Full Course Title: Indigenous Data and OCAP Principles

Short-Form Course Title (max. 30 characters): **Indigenous Data and OCAP**

Course Description

Anyone working with First Nations in Canada or beyond should consider how they interact with First Nations data. This is an important element of responsible and ethical analytics and AI practice. This course will explore historical and contemporary practices of data extraction and their relationship to systems of knowledge from an Indigenous perspective. Topics will include Indigenous data sovereignty, which is a response to colonial practices of data collection; the First Nations principles of ownership, control, access, and possession, more commonly known as OCAP, which assert that First Nations have control over data collection processes; the development of Indigenous frameworks for building and understanding AI systems; and opportunities for reconciliation that come from recognizing our shared data histories.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Critical review of a data-driven system of knowledge: 20%
- Story map: 20%
- Data ethics case study of a policy document: 25%
- OCAP data governance plan for a specified information system: 25%

- Five short reflection posts: 10%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Understand how colonial practices of extraction are embedded in modern data systems;
- Articulate various ethical, legal, and cultural issues associated with Indigenous data work in Canada;
- Explain the First Nations principles of OCAP and how they relate to existing analytics and AI infrastructures;
- Critically evaluate whether existing data and policy infrastructures responsibly take into account First Nations data sovereignty;
- Incorporate First Nations perspectives while conducting data audits, developing data-sharing protocols, and governance documents;

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3550U

*ensure the course code has not been previously used

Full Course Title: Design Thinking and User Experience Design

Short-Form Course Title (max. 30 characters): **Design Thinking and UXD**

Course Description

Building on BBAI 2XXXU - Intro to Design Thinking, this project-based course will introduce students to user experience (UX) design concepts that complement design thinking. User experience design is the process design teams use to create products that provide meaningful and relevant experiences to users. UX design involves the design of the entire process of acquiring and integrating the product, including aspects of branding, design, usability, and function. Students will work in teams to develop an analytics or AI project following a five-stage design thinking process, applying UX methods like usability testing, A/B testing, customer analytics, and more, throughout the entire process.

Credit Hours: 3.0			
Contact Hours – please indicate total number of hours for each component			
Lecture: 3.0		Lab:	
Tutorial:		Other:	
Cross-listings			
Prerequisites for Calendar			
Prerequisites for Banner			
Co-requisites			
Prerequisites with concurrency (pre or co-requisite)			
Credit restrictions	☐ Equivalency*		
Recommended Prerequisites			
Course Restrictions			
Course Type	☒ Core	☐ Elective	☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)			
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)		

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Five individual reflections based on course readings: 20%
- Five individual discussion posts based on in-class examples: 20%
- Group development of an analytics or AI project using design thinking methods: 25%
- Application of UX methods to the design and evaluation of group project (including user evaluation plan, brand evaluation, informal testing, and project pitch): 25%
- Completion of five in-class tutorials: 10%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Draw on design thinking methods to plan an analytics or AI project;
- Apply the five stages of design thinking to analytics and AI workflows;
- Develop a style guide and branding for an analytics or AI project;
- Develop a user experience protocol for an analytics or AI project;
- Carry out informal evaluations (including usability testing, A/B testing, and more) in AI or data design contexts;
- Coordinate and manage an analytics or AI design project;
- Evaluate UX technologies and platforms that can be employed in UXD for analytics and AI contexts;
- Recognize how established design methods can be employed in analytics and AI project management and communication strategies;

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	X
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3570U

*ensure the course code has not been previously used

Full Course Title: Advanced Geospatial Analytics

Short-Form Course Title (max. 30 characters): **Advanced Geospatial Analytics**

Course Description

Building on BBAI 2XXXU - Intro to Geospatial Analytics, this course focuses on advanced geospatial analytics and data science concepts and methods. Students will learn how businesses integrate location analytics in development, marketing, and operations. They will also learn advanced spatial modelling techniques (e.g. geographically weighted regression) that can be used to understand local geographical factors when carrying out market analyses and exploring business opportunities. Surveying and applying various advanced methods, including modern GeoAI methods, students will learn how location intelligence is changing contemporary business development.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- 10 short quizzes based on weekly tutorials: 2% each for 20%
- Mid-term exam: 25%
- Individual dashboard and summary report: 25%
- Group data analysis, report, and presentation of findings: 30%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Understand a range of advanced geospatial analytics methods, including cluster analysis, spatial interpolation, geographically weighted regression, and more;
- Determine which advanced methods are applicable to specific business cases and circumstances;
- Discover, access, process, and manage geospatial big data;
- Use GIS software, along with Python and R programming methods, to build geospatial dashboards and related visualization projects;
- Present and explain insights from geospatial modelling processes;
- Recommend methods and software for translating spatial statistics into location intelligence.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No **Please explain:**

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2029

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

<https://www.human-robot-interaction.org/>

Subject Code: BBAI

Course Number: 3590U

*ensure the course code has not been previously used

Full Course Title: Robotics and Human Robot Interaction

Short-Form Course Title (max. 30 characters): Robotics and HRI

Course Description

A social robot consists of a physical humanoid robot component that connects to online services, enhancing traditional robotics functionality through a network infrastructure. Humanoid robots typically behave like natural social interaction partners for human users, with emotional features such as speech, gestures, and eye gaze that reflect the users' cultural and social background. The course's foundations will establish the baseline for understanding how Human-Robot Interaction (HRI) is likely to influence and change our business practices and lifestyle. This course will also present and discuss the emerging use of robotics in various business application domains, such as customer service support and healthcare management. The students will experience the development of a social robotics application from the design phase to prototype development.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☒ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Individual Exercises (4 x 10%)
- Group Project Proposal Presentation (5%)
- Group Project Presentation and Demonstration (15%)
- Group Project Report (30%)
- Individual Guest Lecture Reports (10%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- 1) Describe social robotics for supporting operational and strategic needs in various functional contexts in organizations.
- 2) Evaluate cross-cultural differences and their impact on Human-Robot Interaction (HRI).
- 3) Investigate the humanoid robot's emotions for HRI.
- 4) Explain what social robotics is in terms of theory and practice.
- 5) Contextualize a need for designing a prototype capable of showing the relevance of current robotics trends to influence and change practices.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	X
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3610U

*ensure the course code has not been previously used

Full Course Title: Sustainability and Information Technologies

Short-Form Course Title (max. 30 characters): **Sustainability and IT**

Course Description

Sustainability and Information Technology (IT) can be viewed from the perspective of the impact of IT, such as AI datacenters on the environment, or from the perspective of looking at how information technology can be used to manage sustainability. This course examines both perspectives through case studies, hands-on assignments and projects. IT tools for ESG (Environmental, Social and Governance) reporting and carbon accounting will be used to learn how businesses can measure and manage their sustainability initiatives. Students will learn how to assess the costs and benefits of sustainability initiatives directed at improving operations and supply chains.

Credit Hours: 3.0

Contact Hours – please indicate total number of hours for each component

Lecture:	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☒ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments – 30%
Midterm – 30%
Term Project- 40%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Students will learn:

- how ESG data is collected and stored
- how to assess the carbon footprint of supply chains
- what the environmental impact is of information technology
- how to interpret ESG reports from publicly traded companies
- to make recommendations to improve the sustainability of operations
- how to evaluate the costs and benefits of sustainability initiatives

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	x	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No Please explain:

EDI is part of ESG, so yes these have been considered and are a part of the course contents.

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

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New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3690U

*ensure the course code has not been previously used

Full Course Title: AI and Inequality/The Global AI Divide

Short-Form Course Title (max. 30 characters): **AI and Inequality**

Course Description

Techno-utopian proclamations argue that the AI revolution will usher in a new age of equality, with wide-scale access to information, wealth and opportunity distribution, and AI fixes to wicked problems like climate change that disproportionately affect marginalized communities. Despite this, artificial intelligence also has the potential to trigger inequality in numerous domains, with recent examples including predatory financial schemes, political misinformation campaigns that target under-educated communities, and the looming threat of automation that is likely to displace workers at the lower end of the socioeconomic scale. An important element of this is the unequal distribution of AI technology, infrastructure, and talent, from data centres to university programs. Some scholars and theorists are calling this a new "global AI divide" that carries with it the potential to widen economic and educational disparities, and to further exacerbate political tensions between the marginalized and well-represented communities.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Data access case study: 15%
- Persuasive Essay - "AI is/is not a force for positive transformation.": 30%

- Comparative Essay - "Compare AI strategic plans for two regions": 30%
- Group policy document: 15%
- Discussion: 10%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Describe how the current AI revolution can lead to either lessened or heightened inequality in various contexts, from education to global wealth distribution;
- Recognize and critique potentially the unequal distribution of AI systems in diverse examples and contexts;
- Compare developments to Canada's AI strategy with those proposed by other countries through an ethical lens that considers AI inequality;
- Articulate recommendations for equal AI access that may be used in an organization's AI strategy;
- Develop responses, including policy documents, that can be used to counter AI inequality.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

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Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BBAI

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3750U

*ensure the course code has not been previously used

Full Course Title: Designing AI Systems

Short-Form Course Title (max. 30 characters): **Designing AI Systems**

Course Description

The design of AI systems typically includes analysis, development, and maintenance of both new and existing systems. In an enterprise context, this requires understanding and specifying in detail what a system should do and how the components of the system should be implemented and work together. This course introduces the foundations of designing AI systems from a business and applied perspective. Students will draw on various tools and techniques used in contemporary hardware and software systems analysis and design as they learn how to plan, develop, and evaluate novel AI systems. These include data collection, structured analysis and design concepts, entity relationship modeling, data flow modeling, feature representation, model training, performance assessment, user interface prototyping, and structure visualization. Students will apply these concepts, and more, to an AI system case study. The course emphasizes the lifecycle of AI system development and the emerging shift toward agentic, goal-driven AI systems capable of taking autonomous actions.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Instruction will use in-class lectures supported by discussion-based case analysis, review of selected industry and research papers (in an accessible format), and structured hands-on exercises that illustrate each step of the AI development process. Students will complete a capstone project in which they develop a conceptual AI

system design for a mock organization, demonstrating how data, model, and evaluation choices align with a defined business use case.

- 6 Quizzes: 30%
- Group Project: 50%
 - Term Project – 25%
 - Project Proposal – 2.5%
 - Work distribution – 2.5%
 - Project Report – 1 – 7.5%
 - Project Report – 2 – 7.5%
 - Peer Evaluation – 5%
- Individual Project Reflection: 20%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](https://teachingandlearning.ontariotechu.ca/), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Describe the stages of the AI system development lifecycle and how they connect to business objectives.
- Explain principles, concepts, and practices related to AI systems analysis and design such as data preparation, feature representation, model training, and model evaluation in non-technical terms.
- Articulate the importance of developing AI strategies in alignment with the overall organizational strategy.
- Identify and gather data to analyze an organization's AI requirements and opportunities, as well as Identify key quality considerations in dataset selection and preparation.
- Explain the role and value of agentic AI systems and how they differ from traditional predictive models.
- Develop general and detailed models for an AI system that can fulfil specified requirements.
- Interpret model evaluation results and performance metrics at a conceptual level.
- Appreciate the significance of having a broad understanding of organizations, organizational culture, organizational change, organizational operations, and business processes in the context of AI transformation.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	X
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3910U

*ensure the course code has not been previously used

Full Course Title: Analysis of Economic Data

Short-Form Course Title (max. 30 characters): **Analysis of Economic Data**

Course Description

The course objectives are to help enable the student to find, collect, evaluate, analyze and present economic data. The student will be introduced to economic and statistical concepts and techniques. Using tools to estimate economic relationships involving two or more variables and to test their significance. Interpret and critically evaluate regression results by using Excel and other statistical outputs in the context of economic theory. Identify and address issues such as multicollinearity, heteroscedasticity, and autocorrelation in economic data.

Credit Hours:	
Contact Hours – please indicate total number of hours for each component	
Lecture:	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Is the course: ☐ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)		HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Quizzes on lecture contents throughout the semester (20%).
- Midterm will have 2 parts:
 - Individual Exam where students will be tested on the foundational knowledge (20%).
 - Group Case Study on an ongoing Topic regarding the Canadian Economy (15%).
- Final Group Project Proposal (5%).

- Final Group Project (30%)
- Group Presentation in Class (10%).

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon Completion Students will:

1. Understand different types of datasets and how to analyze them effectively.
2. Be able to find, collect, clean, and preprocess economic datasets for empirical analysis effectively to answer major economic questions.
3. Develop the capacity for critical thinking concerning data and its presentation.
4. Be able to test economic hypotheses and forecast economic trends.
5. Be able to communicate effectively through written reports and presentations supported by data visualization.
6. Be able to analyze data and contribute to economic debate.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	X
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No **Please explain:**

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

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Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Winter 2030

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 3930U

*ensure the course code has not been previously used

Full Course Title: Data-Driven Health Systems (aka Health Informatics)

Short-Form Course Title (max. 30 characters): **Data-Driven Health Systems**

Course Description

An introduction to techniques in data-driven computer systems with a focus on artificial intelligence in their application to the healthcare field. Topics include, but are not limited to: search methods, adaptive learning approaches, natural language processing and robotics covering application areas in healthcare ranging from document management, medical imaging, healthcare administration, decision support systems and assistive devices.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	BBAI 2XXXU Quantitative Skills for Data Analytics and AI
Prerequisites for Banner	BBAI 2XXXU Quantitative Skills for Data Analytics and AI
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☒ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Four assignments due every two weeks (10% each for total of 40%) that provides practical application of the current techniques taught over those two weeks
- End of term project where students choose a technique and health application area that they wish to do an in-depth report on the latest work in that area(20%)
- Midterm test (15%)
- Final exam test (25%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon successful completion of this course a student should have a broad overview of the different techniques of data systems and artificial intelligence and how they have been and could be applied to health care applications. The student will have a general understanding of the following techniques:

- Automating reasoning, planning and formal inference, and logic;
- Knowledge Representation;
- Probability modeling, probabilistic inference, interpreting senses, and natural language;
- Optimal behavior, sequential decision making, game theory, robotics and control;
- Learning problems, learning algorithms, generalization and over fitting.

The student will have an understanding of how these techniques are applied to areas of health care document searching/development, medical imaging, telemedicine, developing decision support systems and assistive devices.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2030

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 4120U

*ensure the course code has not been previously used

Full Course Title: Chatbots and Recommendation Engines

Short-Form Course Title (max. 30 characters): **Chatbots and Recommendation Engines**

Course Description

This course will introduce students to the techniques and sample applications for the use of Chatbots and Recommendation Engines used ubiquitously around the world in application areas such as retail, healthcare and finance applications. We will consider not just how they are implemented and used, but also the legal and ethical issues such as the parties responsible and consequences for recommendations that are in error resulting in liability, consent for training the systems, etc.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	BBAI 3XXXU Foundations of Machine Learning
Prerequisites for Banner	BBAI 3XXXU Foundations of Machine Learning
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☒ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Four assignments covering techniques, application, a legal and ethical issues (10% each for total of 40%)
- End-of-term project reporting on a case study of a chatbot/recommendation system (60%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon successful completion of the course a student will:

- Understand the theory and implementation techniques of the machine learning techniques used in chatbot and recommendation engines
- Be able to explain how AI techniques such as neural networks, natural language processing and reinforcement learning are used to create chatbots and recommendation engines
- Be able to illustrate the ethical issues surrounding the creation of these systems
- Explain the legal responsibilities and provide case examples involving the creation and use of chatbots and recommendation engines

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	x	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

N/A

Subject Code: BBAI	Course Number: 4500U *ensure the course code has not been previously used
Full Course Title: Visualization and Storytelling	
Short-Form Course Title (max. 30 characters): Visualization and Storytelling	

Course Description

Open a newspaper or news website. Listen to a political speech. Data has become the language of contemporary life. Dashboards are ubiquitous. Interactive data-driven maps are everywhere. Data visualization is used at the highest levels of power to make sense of public health and economic crises, to inform and direct policy decisions, and to communicate insights to the public. Knowing how to speak the language of data is arguably the most important skill in an information society.

This course will introduce students to a variety of tools and methods for telling stories with data. It will explore visualization basics (e.g. selecting appropriate chart types), data design concepts (e.g. choosing colour palettes), interaction methods (e.g. brushing for selection), elements of story construction (e.g. developing a narrative structure), and common data storytelling formats (e.g. scrollytelling). The course will draw on a number of real-world case studies from fields like data journalism and business intelligence, and students will work with a variety of data visualization platforms, including (but not limited to) Tableau, Power BI, Datawrapper, Infogram, and Plotly. Students will be expected to use these tools to create reports, dashboards, and coherent data stories designed to help individuals and organizations make data-driven decisions.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	BUSI3504U
Prerequisites for Banner	BUSI3504U
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

The course will be delivered exclusively through weekly in-person classes. Each week will consist of a short lecture providing an overview of important themes, a group discussion, and a collaborative design exercise or guided in-depth tutorial. Students are expected to attend all classes, read assigned readings, and contribute to discussion. To facilitate discussion, students will identify themes and questions from the course materials and relate them to topical issues.

There will be three major assignments throughout the course. Each of these assignments is designed to provide students with an opportunity to develop professional portfolio items.

Assignment 1 - Storyboard 25%

Assignment 2 - Deceptive Graphic 25%

Assignment 3 - Visualization Story 40%

Canvas Inspiration 5%

In-class Inspiration 5%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Use contemporary software applications to create visualizations that make it easy for users to perceive and understand selected data;
- Create stylish and engaging reports, dashboards, and data stories that effectively communicate trends and patterns;
- Incorporate visual perception and cognition concepts in the design of interactive data graphics;
- Explain data visualization principles and guidelines (e.g. International Business Communication Standards) for effective analysis and presentation;
- Deploy filters, calculated fields, parameters, and clusters in interactive visualizations that facilitate forecasting and trend analysis.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	X
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences: To be determined by course instructor.			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

This course is part of a new degree proposal and was included in the consultation for that program. Please refer to the main program proposal for consultation details.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No **Please explain:**

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and Artificial Intelligence

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI	Course Number: 4540U
Full Course Title: Game Analytics	
Short-Form Course Title (max. 30 characters): Game Analytics	

Course Description

The course will introduce students to basic concepts of probability & statistics and their applications in game design, programming, analytics, usability studies of games, games user research, and human-computer interaction for games.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: No
Tutorial: No	Other:
Cross-listings	
Prerequisites for Calendar	BBAI 1950U – Statistics and Probability for Data Analytics
Prerequisites for Banner	BBAI 1950U – Statistics and Probability for Data Analytics
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☒ Elective ☐ Core or Elective
Is the course:	☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery) X		HYB (In Class and Online Delivery) X	
IND (Individual Studies) X		OFF (Off Site) X	
WB1 (Virtual Meet Time – Synchronous) X		WEB (Fully Online – Asynchronous) X	
Not Applicable			

Teaching and assessment methods:

In this course, we will be learning about probability & statistics and their applications in various aspects of game development and video games studies. We will learn the grammar of the R programming language, which is popular among data scientists in the industry and academia. We will learn how to perform descriptive statistics in R and how they are used for generating reports on collected data. We will then be learning the basics of the theory of probability, with applications in balancing games and economies. We will then learn about the basics of quantitative research involving human participants in the game industry and academia for studying game user research. We will also cover the basic use of hypothesis testing to analyze mock user study data. We will then move on to learning about correlations and linear regression analysis of gameplay generated data and how it can be used for game analytics. We will finish the course with learning how to perform advanced data visualizations.

Weekly tasks (20%)

- Each week, starting with Week 2, students will be expected to complete a task (e.g. writing code in R and/or generating a report, or completing a stats quiz).

Assignment 1 & 2 (20% each)

- There are 2 assignments in this course, to be done in Groups of 2. The assignments will test your knowledge of the math concepts and R programming presented in class

Midterm Exam (20%)

Final Exam (20%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Understand the basics of the R programming language for applications in game design, games user research and game analytics, which includes:
- Descriptive statistics
- The basics of probability theory
- Understanding differences between fundamental types of data
- Plotting the data using basic and advanced visualization techniques
- Generating data reports
- Understanding hypothesis testing and analysis of variance
- Understanding correlations and linear regression analysis

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

BBAI 4540U is part of the group of BBAI electives which students will have the opportunity to opt for. The electives category in the BBAI program are outlined in the proposal package itself and it is currently going through the various governance steps to become a fully approved program. It is currently at the USC step as of April 2026.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

This course follows Ontario Tech's policies surrounding Equity, diversity and inclusion.

Does this course 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

Financial Implications

None

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and Artificial Intelligence

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI	Course Number: 4541U
Full Course Title: Real Estate Analytics	
Short-Form Course Title (max. 30 characters): Real Estate Analytics	

Course Description

This course applies data-driven methods to the analysis of real estate markets, with a focus on the Canadian (and Ontario) landscape. Students will examine residential and commercial property valuation, market forecasting, and investment analysis through the lens of business analytics, drawing on publicly available data sources including the CMHC, Statistics Canada, and regional MLS datasets. Topics include hedonic pricing models, spatial analysis and geographic information systems (GIS), mortgage mathematics, cap rate and discounted cash flow analysis, and the impact of macroeconomic factors (including interest rate cycles, immigration, and housing supply policy) on Canadian market dynamics. Students will also explore emerging applications of machine learning in automated valuation models and site selection, as well as the role of REITs and property technology in reshaping real estate investment.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: No
Tutorial: No	Other:
Cross-listings	
Prerequisites for Calendar	None
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☒ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery) X		HYB (In Class and Online Delivery) X	
IND (Individual Studies) X		OFF (Off Site) X	
WB1 (Virtual Meet Time – Synchronous) X		WEB (Fully Online – Asynchronous) X	
Not Applicable			

Teaching and assessment methods:

This course will be delivered in a three-hour weekly session that combines lectures, applied exercises, and short assessments.

Bi-Weekly Quizzes (5 @ 5%) = 25%

Weekly in-class exercises (10 @ 2.5%) = 25%

Collaborative Term Project: Groups will develop a real estate analysis project using local data and will build an interactive application (e.g. dashboard) to demonstrate their analytical work. 30%

Term Project Presentation: Groups will present their analytical project in a data-driven presentation to their peers. 20%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon successful completion of this course, students will be able to

- Analyze Canadian real estate market dynamics using data from including the CMHC, Statistics Canada, and regional MLS,
- Interpret trends in housing supply, demand, affordability, and price cycles across different markets and property types.
- Build and interpret hedonic pricing models that decompose property values into constituent attributes, applying regression-based techniques to estimate the marginal contribution of location, structure, and neighbourhood characteristics.
- Apply spatial analysis and GIS tools to visualize and quantify geographic patterns in real estate data, including proximity effects, neighbourhood boundaries, and the influence of infrastructure and amenities on property values.
- Conduct investment analysis on real estate assets, including discounted cash flow modelling, cap rate analysis, mortgage mathematics, and basic REIT evaluation.
- Evaluate the impact of macroeconomic and policy variables, including Bank of Canada interest rate decisions, immigration levels, foreign buyer regulations, and municipal zoning policy, on Canadian housing market conditions.
- Assess proptech innovations and emerging market structures, including platform-based real estate transactions, algorithmic site selection, and the digitization of property records.
- Communicate data-driven real estate insights effectively, presenting valuation analyses, market forecasts, and investment recommendations in diverse formats.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	X
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

BBAI 4541U is part of the group of BBAI electives which students will have the opportunity to opt for. The electives category in the BBAI program are outlined in the proposal package itself and it currently going through the various governance steps to become a fully approved program. It is currently at the USC step as of April 2026.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

This course follows Ontario Tech's policies surrounding Equity, diversity and inclusion.

Does this course 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

Financial Implications

None

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 4542U

*ensure the course code has not been previously used

Full Course Title: Music Analytics

Short-Form Course Title (max. 30 characters): **Music Analytics**

Course Description

Data-driven methods, from content generation to audience engagement, are ubiquitous in contemporary digital creative industries like film and game development. The music world has been slower to embrace data and analytics, but the advent of streaming music has led to a tidal shift, and music analytics is now an important and growing field. Artists and music industry enterprises use sonic, audience, revenue, and engagement metrics to create innovative new sounds and genres, develop content distribution strategies, and understand hidden audience insights and trends. This course will examine the foundations of music analytics, from how data informs our understanding of music to how music companies use data. Students will learn to analyze and visualize music data, leverage data-driven insights for licensing and royalty calculations, and explore and build music recommendation systems.

Credit Hours: 3.0

Contact Hours – please indicate total number of hours for each component

Lecture: 3.0

Lab:

Tutorial:

Other:

Cross-listings

Prerequisites for Calendar

Prerequisites for Banner

Co-requisites

**Prerequisites with concurrency
(pre or co-requisite)**

Credit restrictions

☐ **Equivalency***

Recommended Prerequisites

Course Restrictions

Course Type

☒ **Core**

☐ **Elective**

☐ **Core or Elective**

Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)

Grading scheme

☒ **N (normal alpha grade)**

☐ **P (pass/fail)**

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Music business forecast report: 20%
- AI music composition with data analysis and visualization of insights: 30%
- (Group) development and presentation of a recommendation system: 40%

- Two inspiration presentations or posts: 10%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Understand how musicians and music industry organizations can leverage analytics and AI for content creation, brand development, and audience engagement
- Use data visualization to synthesize and communicate music analytics insights
- Evaluate new opportunities for music industry organizations to use sonic, audience, revenue, and engagement metrics for developing innovative markets
- Develop data-driven approaches to music curation, including recommendation systems
- Forge novel management and leadership opportunities in the music industry

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and Artificial Intelligence

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI	Course Number: 4548U
Full Course Title: Sports Analytics	
Short-Form Course Title (max. 30 characters): Sports Analytics	

Course Description

This course examines the application of advanced data analytics and artificial intelligence to the business and performance dimensions of professional and amateur sport. Students will explore how front offices, coaching staff, and sports media organizations use data to drive decisions in player evaluation, in-game strategy, roster construction, and fan engagement. Drawing on publicly available datasets from leagues such as the NHL, NBA, MLB, and CFL, students will apply statistical and machine learning methods, including player tracking analysis, expected value metrics, survival analysis for career modelling, and natural language processing for scouting reports, to real problems faced by sports organizations. The course addresses the business analytics side of sport, focusing on ticket pricing and dynamic demand modelling, sports betting markets as forecasting benchmarks, and the valuation of franchises and broadcast rights.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: None
Tutorial: None	Other:
Cross-listings	
Prerequisites for Calendar	None
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☒ Elective ☐ Core or Elective
Is the course:	☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery) X		HYB (In Class and Online Delivery) X	
IND (Individual Studies) X		OFF (Off Site) X	
WB1 (Virtual Meet Time – Synchronous) X		WEB (Fully Online – Asynchronous) X	
Not Applicable			

Teaching and assessment methods:

Reflection and case analysis assignments (~20%)
Class activities and contribution (15%)
Midterm (25%)
Group analysis and development project (20%)
Group report and presentation (20%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon successful completion of this course, students will be able to:

- Collect, process, and visualize real-world sports data from professional league APIs, public repositories, and web sources
- Construct reproducible data pipelines that transform raw data into publication-quality visualizations and dashboards suitable for front office or broadcast audiences.
- Evaluate and apply sport-specific performance metrics, including expected goals, wins above replacement, player efficiency ratings, and other modern derived statistics.
- Analyze player tracking and spatiotemporal data using appropriate statistical and machine learning methods, extracting actionable insight from movement, positioning, and event-level data.
- Build predictive models for in-game and season-level outcomes, applying techniques such as logistic regression and gradient boosting to problems including win probability estimation, playoff forecasting, and injury risk modelling.
- Apply survival analysis and longitudinal methods to athlete career data.
- Conduct business analytics for sports organizations, including dynamic ticket pricing models, attendance demand forecasting, fan segmentation, and the financial valuation of franchises, sponsorships, and media rights in the North American sports market.
- Leverage sports betting markets as analytical benchmarks, interpreting implied probabilities, line movement, and market efficiency as tools for evaluating the quality of predictive models.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

BBAI 4548U is part of the group of BBAI electives which students will have the opportunity to opt for. The electives category in the BBAI program are outlined in the proposal package itself and it currently going through the various governance steps to become a fully approved program. It is currently at the USC step as of April 2026.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No **Please explain:**

This course follows Ontario Tech's policies surrounding Equity, diversity and inclusion.

Does this course 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

Financial Implications

None

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: BBAI 4610U

*ensure the course code has not been previously used

Full Course Title:

Short-Form Course Title (max. 30 characters): **AI for Social Good**

Course Description

As an emerging technology, AI has significant potential to improve our world. This course is focused on understanding and creating novel solutions using AI to create social good. Students will work in teams to design AI-driven solutions for real-world social challenges. Guided by design thinking and responsible AI frameworks, teams partner with community organizations, social enterprises, or impact-driven firms to prototype AI applications that create measurable social value. Solutions will focus on how AI can be applied to advance the United Nations Sustainable Development Goals (SDGs), including poverty alleviation, climate action, quality education, responsible consumption, and sustainable economic growth. Case-studies about AI solutions for social benefit will also be covered.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)		HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Participation – 15%
- Weekly group-based activity – 25%
- Individual assignment (exploring issue related to a UN sustainability goal) – 25%
- Group project– 25%
- Final presentation – 10%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Upon successful completion of this course, students will:

- Identify and evaluate AI applications that address specific UN Sustainable Development Goals.
- Analyze the ethical, environmental, and social implications of AI-driven initiatives.
- Design responsible AI solutions that balance innovation, profitability, and sustainability.
- Communicate the impact of AI projects using SDG-aligned performance metrics and reporting frameworks (e.g., ESG, GRI).
- Demonstrate strategic thinking in using AI to achieve long-term sustainable development outcomes.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	X
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☒ Yes ☐ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

N/A

Subject Code: BBAI	Course Number: 4700U *ensure the course code has not been previously used
Full Course Title: Strategic Management of Analytics and Artificial Intelligence Systems	
Short-Form Course Title (max. 30 characters): Strategic Management of Analytics and AI Systems	

Course Description

Artificial Intelligence (AI) and analytics are transforming businesses and industries. This course provides an overview of key strategic management concepts and frameworks with special emphasis on how AI and analytics systems enable business models, assist strategic decision making, and create competitive advantage. Through case studies, lectures, and interactive activities, students apply their understanding of these concepts to design solutions that connect AI and analytics technologies with a firm's other resources and capabilities to achieve its objectives.

Topics such as generic competitive strategies, industry analysis, resource-based view, and blue ocean strategy are covered. Emphasis is placed on strategic fit, organizational readiness, positioning, and long-term value creation in an increasingly data-driven and AI-enabled economy.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	BBAI3XXXU – Business Applications of AI
Prerequisites for Banner	BBAI3XXXU – Business Applications of AI
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	BUSI4570U ☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course:	☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

This course utilizes lectures, case studies, and in-class interactive activities to explore how AI and Analytics enable business models, lead to competitive advantage, and support decision-making.

Case analysis assignments (~30%)

Class activities and contribution (~20%)

Midterm exam (~20%)

Final assessment (~30%)

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

- Describe the role analytics and AI systems play in business strategy and competitive advantage.
- Evaluate how analytics and AI systems enable new business models and assist strategic decision making.
- Apply key strategic management frameworks such as industry analysis, resource-based view, and value chain analysis to assess the strategic role of AI and analytics systems.
- Evaluate when and how data-driven capabilities can lead to competitive advantage and can enhance performance in rapidly changing contexts.
- Analyze real life case studies and develop recommendations on applying AI and analytics in pursuit of competitive advantage.
- Evaluate the ethical, social, and environmental implications of AI and analytics systems as key drivers of firm activities and decisions.
- Communicate solutions and recommendations effectively and efficiently, and display critical thinking abilities.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

This course is part of a new degree proposal and was included in the consultation for that program. Please refer to the main program proposal for consultation details.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No **Please explain:**

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2027-2028

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 4750U

*ensure the course code has not been previously used

Full Course Title: Leading Digital Transformation

Short-Form Course Title (max. 30 characters): **Leading Digital Transformation**

Course Description

Building on prior courses and topics in the program, this course examines the ethical, legal, financial, and societal implications of data and AI transformation, providing students with a foundation to become leaders in the context of wide-ranging digital transformation. Digital transformation is one of the most important topics in modern business. Leaders who prepare for it can optimize business processes, mitigate risks, and discover opportunities that digital, data-driven, and AI technologies promise to bring.

In this course, students will consider how to navigate complex, wide-scale digital transformation, how to manage resistance to change, and how to shepherd the shift toward enterprise-wide system migration. Heavy emphasis will be placed on strategic planning, embracing cultural change, and creative adaptation as students explore topics ranging from gap analysis to organizational readiness.

Credit Hours: 3.0	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3.0	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

- Case Study Analysis 25%
- Essay that examines ethical, legal, financial, and/or societal implications of data/AI transformation 25%
- Strategic Plan Survey and Development (group project) 50%

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

On the successful completion of the course, students will be able to:

- Draw on a variety of methods for setting objectives, defining organization values, and implementing processes for change;
- Develop strategic plans for organizational change that will account for AI transformation;
- Develop messaging strategies that communicate an organization's strategic plans;
- Simulate core digital transformation processes and build consensus in a team setting;
- Evaluate modern (and future) analytics and AI technologies that have the potential for significant disruption;
- Employ different organizational governance models to manage resistance to analytics and AI technologies;
- Recognize a range of business opportunities, challenges, and dangers associated with digital transformation;
- Coordinate short- and long-term goals for leading digital transformation with key stakeholders.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☒ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

N/A

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☐ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☐ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

2026-2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: BBAI

Course Number: 4800U

*ensure the course code has not been previously used

Full Course Title:

Security, Privacy and Trust in AI Systems

Short-Form Course Title (max. 30 characters): Security, Privacy and Trust in AI Systems

Course Description

This course examines the concepts and practices required to ensure security, privacy, and trust in contemporary AI systems deployed in business contexts. Students will explore methods for identifying risks associated with data use, model behavior, and system interactions, as well as approaches to safeguarding personal information and maintaining regulatory compliance. Emphasis is placed on governance frameworks, responsible data practices, and the evaluation of trustworthiness in AI-enabled decision-making. Upon completion, students will be able to assess AI-related risks, recommend appropriate organizational controls, and support the development and oversight of AI systems that align with legal, ethical, and stakeholder expectations.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: N/A
Tutorial: N/A	Other:
Cross-listings	
Prerequisites for Calendar	Foundations of Machine Learning (3rd year)
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Instruction will combine in-class lectures and guided discussions with structured, hands-on activities. Students will review and critique relevant research, industry policy documents, and regulatory guidance to build practical understanding. Learning will culminate in a capstone project in which students apply course concepts to a

simulated organization or business scenario, developing a structured AI security, privacy, and trust assessment for a mock field or company context.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

1. Identify security, privacy, and trust considerations associated with AI systems in organizational environments.
2. Analyze AI-related risks across data, model, and deployment stages.
3. Evaluate regulatory, ethical, and governance requirements relevant to AI adoption.
4. Recommend policies and controls to support responsible and compliant AI use.
5. Assess the trustworthiness of AI-enabled decision-making in business contexts.

Does this course contain any experiential learning components? ☐ Yes ☐ No

If yes:

Case Study	X	Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☐ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

N/A

Subject Code: BBAI	Course Number: 4910U *ensure the course code has not been previously used
Full Course Title: BBAI Thesis Project I	
Short-Form Course Title (max. 30 characters): BBAI Thesis Project I	

Course Description

The thesis project provides students with the opportunity, under the supervision of a faculty member, to integrate and synthesize knowledge gained throughout their program of study and to satisfy specific objectives and requirements. The project will be selected to include research that has been approved by the supervising faculty member. Students will submit a progress report at the end of the first semester. Once all work is completed, each student must submit a thesis and make a presentation based on their research in the following semester.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 0	Lab: 0
Tutorial: 0	Other: 9
Cross-listings	
Prerequisites for Calendar	Students will have completed 84 credit hours in the BBAI program and have a cGPA of 2.7 or higher. Students must obtain prior consent of a faculty member and approval from the program director.
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course:	☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)	X	OFF (Off Site)	X
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

The two, one-semester courses (BBAI4910U and BBAI4920U) will include independent research conducted by the student, either as an individual or as a member of a group, with the guidance of a faculty supervisor. The student is expected to allocate a minimum of 9 hrs per week to work on their project. The time allotted will ensure that students have the opportunity to acquire the necessary knowledge related to their projects. This time will also be used to meet with the supervisor, who will provide them with guidance and help prepare them for the presentation of their work and for the writing of the technical reports. The main form of assessment will be a written document, or thesis, that is required before the end of the second semester. In addition, students

will be graded on a presentation that will be required at the end of the second semester, and on their performance throughout the project.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Students who successfully complete the course have reliably demonstrated the ability to:

- Employ and synthesize the skills established in the individual courses in the student's program of study.
- Define a project and be responsible for carrying it out to a satisfactory conclusion.
- Accept responsibility for managing time and financial constraints associated with carrying out a research project.
- Prepare technical presentations and reports, and format them for specific purposes
- Communicate the essential elements of the project orally before an audience of peers.
- Participate actively in presentations by others, and to articulate appropriate questions to the speaker.
- Prepare a detailed final report outlining the problem definition, the methodology of tackling the problem, and summarizing the conclusions.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	X
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

This course is part of a new degree proposal and was included in the consultation for that program. Please refer to the main program proposal for consultation details.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

N/A

Subject Code: BBAI	Course Number: 4920U *ensure the course code has not been previously used
Full Course Title: BBAI Thesis Project II	
Short-Form Course Title (max. 30 characters): BBAI Thesis Project II	

Course Description

A continuation of the project started in BBAI 4910U. Students will make presentations based on their research and submit a written thesis.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 0	Lab: 0
Tutorial: 0	Other: 9
Cross-listings	
Prerequisites for Calendar	BBAI4910U
Prerequisites for Banner	BBAI4910U
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course:	☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)	X	OFF (Off Site)	X
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

The two, one-semester courses (BBAI4910U and BBAI4920U) will include independent research conducted by the student, either as an individual or as a member of a group, with the guidance of a faculty supervisor. The student is expected to allocate a minimum of 9 hrs per week to work on their project. The time allotted will ensure that students have the opportunity to acquire the necessary knowledge related to their projects. This time will also be used to meet with the supervisor, who will provide them with guidance and help prepare them for the presentation of their work and for the writing of the technical reports. The main form of assessment will be a written document, or thesis, that is required before the end of the second semester. In addition, students will be graded on a presentation that will be required at the end of the second semester, and on their performance throughout the project.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

Students who successfully complete the course have reliably demonstrated the ability to:

- Employ and synthesize the skills established in the individual courses in the student's program of study.
- Define a project and be responsible for carrying it out to a satisfactory conclusion.
- Accept responsibility for managing time and financial constraints associated with carrying out a research project.
- Prepare technical presentations and reports, and format them for specific purposes
- Communicate the essential elements of the project orally before an audience of peers.
- Participate actively in presentations by others, and to articulate appropriate questions to the speaker.
- Prepare a detailed final report outlining the problem definition, the methodology of tackling the problem, and summarizing the conclusions.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	X
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

This course is part of a new degree proposal and was included in the consultation for that program. Please refer to the main program proposal for consultation details.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Business and IT	
This new course is associated with:	
☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None	
Will this course appear anywhere other than the course description section of the Calendar?	☐ Yes ☒ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

Bachelor of Business Analytics and AI (BBAI)

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

N/A

Subject Code: BBAI	Course Number: 4990U *ensure the course code has not been previously used
Full Course Title: Special Topics in Analytics and Artificial Intelligence	
Short-Form Course Title (max. 30 characters): Special Topics in Analytics and AI	

Course Description

This course is an exploration of contemporary issues in business analytics and AI. Specific topics and any additional prerequisites will be announced with the schedule each time this course is offered. Course content varies from offering to offering but may include topics in AI and/or analytics in various business functions, Ethics and Legal issues related to analytics and AI, and business models enabled by analytics and AI systems. This course may be retaken with a change in topic.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab:
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	
Prerequisites for Banner	To be determined by course instructor based on course content
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	X	HYB (In Class and Online Delivery)	X
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)	X	WEB (Fully Online – Asynchronous)	X
Not Applicable			

Teaching and assessment methods:

Teaching approach and assessment strategies to be developed by instructor for the particular topic selected in a semester and approved by program director before the start of semester.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](https://teachingandlearning.ontariotechu.ca/), or contact them at teachingandlearning@ontariotechu.ca.)

This is a special topics course and content will vary with each offering of the course and depending on the content and pedagogy.
Learning outcomes be determined by course instructor for the topics selected for a specific semester and approved by program director.

Does this course contain any experiential learning components? ☒ Yes ☐ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences: To be determined by course instructor.			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

This course is part of a new degree proposal and was included in the consultation for that program. Please refer to the main program proposal for consultation details.

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

Does this course 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

Financial Implications

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

Appendix C.2 – Existing Course Descriptions

BUSI 1030U – Writing and Critical Thinking

Effective professional written and oral presentation skills are the foundation of future academic and career success. The course has three layers, starting with basic writing skills including grammar and composition. The second layer is the preparation of professional written and oral business communications, emails, positive and negative messages; and the preparation and oral presentation of an argumentative report including library research skills and bibliography. The final layer is advanced topics such as mind maps, resume preparation and interview skills, fallacious arguments, business etiquette and conversational skills.

BUSI 1520U – Introduction to Business Analytics

This course will provide skills in Microsoft Excel to solve business problems and help you make important business decisions and achieve optimum results. Students will learn how to use What-if Analysis tools to explore business impacts arising from changing one or more variables, use Excel Solver to find optimal solutions to business problems with multiple decision variables and constraints, and use Pivot Tables and Power Pivot to perform data-driven business analysis and create sophisticated data models. Visual Basic for Applications (VBA) will also be used to create user-defined functions and automate processes beyond what is normally available with Microsoft Excel.

BUSI 1600U – Management of the Enterprise

This introductory management course is divided into four parts. Students will be introduced to the core concepts and context of management, enhancing their understanding of how the business environment affects the practice of management. The functions of management will be reviewed, including key topics, issues and problems within the basic management activities of marketing, organizational behaviour/human resources, operations management and information technology, accounting, and finance. The latter components will synthesize the ideas presented in earlier classes by introducing fundamental elements of business strategy, followed by advanced topics in management, including small business, entrepreneurship and e-business.

BUSI 2040U – Information Systems

This course provides a broad introduction to the many elements that comprise an information system and explores the underlying information technologies and their impact on organizations. Emphasis is placed on managers' information needs, the various kinds of support necessary for decision-making, and the functional and strategic implications of information systems for organizations. Students will also be introduced to concepts regarding the design of information systems to enable them to communicate the needs of their functional business area to technical personnel. This will enable their organization to obtain an information system that meets a specific need and provides a competitive advantage in their industry. The course also includes a practical element, allowing

students to gain hands-on experience with popular Enterprise Resource Planning (ERP) software.

BUSI 2050U – Managerial Economics

This core course provides students with analytical tools useful for dealing with microeconomics from a manager's perspective. It is concerned with the application of economic principles and methodologies to key management decisions within organizations. It provides principles to foster the goals of the organization, as well as a better understanding of the external business environment in which an organization operates. It shows a unique way of thinking about problems, issues and decisions that managers face in each of the functional areas of the organization as well as the strategic ones faced by general managers while competing with their rivals.

BUSI 2500U – Business Simulation and Analytics

Functional business areas such as Finance, Accounting, Production Planning, Procurement, Logistics, Marketing and Sales are coordinated using Enterprise Resource Planning (ERP) systems. This course introduces students to the concept of integration within an organization. Using an experiential approach, this course will provide students hands-on training in the use of tools, such as SAP, an industry leader in ERP.

BUSI 2550U – Introduction to Project Management

This course focuses on information technology projects and applies basic project management theory on handling and managing those projects. It introduces the concepts and tools that are appropriate for phases of project life cycle, and incorporates areas outlined in the Project Management Institute's Project Management Body of Knowledge (PMBOK) into the basic concepts associated with information systems management and software engineering.

BUSI 3000U – Business and Sustainability

This course focuses on sustainability in business as a transformative approach to Corporate Social Responsibility. Students will explore how doing well in business requires doing good in society and for the environment. The course begins by examining the normative foundations of sustainability using business ethics as a framework. The course then situates sustainability in the practical reality of today's world in order to understand the types of social issues and environmental concerns that shape society's expectations of business. Students will examine various international treaties and conventions to understand the global context of sustainability. Students will learn about the challenges and opportunities that lie in integrating sustainability into business in meaningful and transformative ways. Students will explore the emergence of different forms of business

organizations, as well as the use of ESG reporting to measure the performance of business with respect to the environment, social issues and corporate governance. The course will also include a special focus on the intersection of technology and sustainability, and the idea of ‘tech with a conscience’.

BUSI 3504U – Databases, Data Warehouses and Business Intelligence

This course is designed for information technology and business students as a first step towards becoming a data management and business intelligence professional. It focuses on three areas: databases, data warehouses and business intelligence. First, it covers the foundations of data modelling, including entity-relationship diagrams, normalization and denormalization, database management techniques and Structured Query Language (SQL). Next, it exposes students to the implementation and use of data warehouses from conceptual and practical perspectives. Finally, it covers the use of databases and data warehouses for various business intelligence tasks. Throughout the course, students will be given an opportunity to explore popular database, data warehousing and business intelligence software tools.

BUSI 4040U – Emerging Trends in Technology Management

Technology, and the way we use and manage it, changes rapidly. In this course, we examine the trends in Technology Management that are occurring, focusing on new and impactful technologies and how they can change business and life.

BUSI 4504U – Advanced Business Intelligence

Business intelligence is an integral aspect of how businesses use data to make decisions. This course presents advanced business intelligence tools and techniques that can be used productively in organizations of any size. Students will learn a variety of advanced data management and analytical skills, including project planning, requirements gathering, tool selection, data modelling, ETL, dashboard design, deployment and reporting. Additionally, students will gain hands-on experience with various technologies used in professional business intelligence and data warehousing contexts. Placing a heavy emphasis on experiential learning, with real-world case studies and examples, this course demonstrates how these skills and technologies can be applied in the contemporary workplace.

XBIT 1000C – Foundations for Success in Co-op

This is a mandatory workshop for students enrolled in the Bachelor of Commerce Co-op program. Students will develop skills that will help them search for co-op placement opportunities, prepare job application packages, attend interviews and reflect on their experiences. The interactive course also provides an overview of the FBIT co-op program details in addition to tips on how to experience a successful co-op program. This is an opportunity for students to network with a cohort of peers that are all experiencing the co-op program at the same time.

XBIT 2000W – FBIT Co-op Work Term I

The first co-op work term for students in Bachelor of Commerce programs aimed at providing significant professional experience. The typical duration of the work term is four months. Registration in this course is conditional on the student obtaining and accepting an acceptable co-op placement offer from an approved employer partner. Co-op students are required to submit a report, following established criteria, after completing the co-op placement in accordance with the published timelines. The course is graded on a pass/fail basis and the grade appears in the student's academic transcript. Both grades have no numerical value and are not included in a student's grade point average.

XBIT 3000W – FBIT Co-op Work Term II

The second co-op work term for students in Bachelor of Commerce programs aimed at providing significant professional experience. The typical duration of the work term is four months. Registration in this course is conditional on the student obtaining and accepting an acceptable co-op placement offer from an approved employer partner. Co-op students are required to submit a report, following established criteria, after completing the co-op placement in accordance with the published timelines. The course is graded on a pass/fail basis and the grade appears in the student's academic transcript. Both grades have no numerical value and are not included in a student's grade point average.

XBIT 4000W – FBIT Co-op Work Term III

The third co-op work term for students in Bachelor of Commerce programs aimed at providing significant professional experience. The typical duration of the work term is four months. Registration in this course is conditional on the student obtaining and accepting an acceptable co-op placement offer from an approved employer partner. Co-op students are required to submit a report, following established criteria, after completing the co-op placement in accordance with the published timelines. The course is graded on a pass/fail basis and the grade appears in the student's academic transcript. Both grades have no numerical value and are not included in a student's grade point average.

XBIT 4100W – FBIT Co-op Work Term IV

An optional fourth co-op work term for students in Bachelor of Commerce programs aimed at providing significant professional experience. The typical duration of the work term is four months. Registration in this course is conditional on the student obtaining and accepting an acceptable co-op placement offer from an approved employer partner. Co-op students are required to submit a report, following established criteria, after completing the co-op placement in accordance with the published timelines. The course is graded on a pass/fail basis and the grade appears in the student's academic transcript. Both grades have no numerical value and are not included in a student's grade point average.

XBIT 4200W – FBIT Co-op Work Term V

An optional fifth co-op work term for students in Bachelor of Commerce programs aimed at providing significant professional experience. The typical duration of the work term is

four months. Registration in this course is conditional on the student obtaining and accepting an acceptable co-op placement offer from an approved employer partner. Co-op students are required to submit a report, following established criteria, after completing the co-op placement in accordance with the published timelines. The course is graded on a pass/fail basis and the grade appears in the student's academic transcript. Both grades have no numerical value and are not included in a student's grade point average.

XBIT 4500U – Capstone Study Project

Students will work in teams with an outside client organization, completing a comprehensive analysis and evaluation of the organization and developing appropriate recommendations for improved performance and problem resolution. The student team will make a formal presentation of their findings and recommendations to faculty advisors and to the management of the client organization. Through Capstone, students will develop a thorough understanding of the technology, environment, markets, and operations of a real organization by applying the theory and knowledge that they have learned.

XBIT 4600W – Internship

This program offers students who have successfully completed two years of study, achieved a minimum 2.3 GPA (C+ average on a 4.3 scale) and who are in good academic standing an opportunity to engage in a contracted learning partnership with businesses locally and globally. Faculty members may provide links to various internship placement opportunities or a student may secure an employer who meets the criteria as prescribed by the Faculty of Business and Information Technology.

The internship program not only gives students an opportunity to apply classroom concepts to the challenges of organizational life but also helps them to gain valuable and relevant work experience to promote networking and life-long career success. Participating employers are given the opportunity to bring the motivated learners, thinkers and doers of tomorrow into their workplaces, as well as provide valuable mentoring to students.

The internship program placement equates to a minimum of 560 hours of progressive business and management experience. The intern's wages (stipulated in a contract) are paid by the sponsoring business over a contracted period. Successful work placement completion and both a verbal and written final report will result in the intern receiving a mark and three credits toward the honours Bachelor of Commerce degree requirements. Students who have successfully completed the internship program are not required to take the Capstone Study Project.

Admission to the internship program is competitive. While students are participating in an internship program, they may enrol in one course (three credits) per semester. This course must not interfere with the internship schedule outlined by the employer.

XBIT 4700U – Venture Creation

The course will support students both academically and practically to move their business ideas through various stages with a final result of launching a functioning, viable business plan, product, or service. Working with the Brilliant Incubator or other community-based incubator programs, students will receive guidance, mentorship and assistance in all phases of their venture's development.

This course differentiates itself from traditional business incubators by its dual 'practical doing' and 'formal learning' streams. Although many traits and talents that contribute to entrepreneurial success are often inherent within an individual, the course reflects the philosophy that skills and knowledge can be learned and acquired as a result of expert mentorship and guidance, especially when linked with a 'practical doing' component.

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Business and IT	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course Instructional Method (CLS, HYB, WB1, WEB)	☐ Learning outcomes
☒ Course number or course Subject code	☐ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

BUSI 2510U was used as a placeholder course code until the new BBAI program was developed. Now that the BBAI program is in its final stages of approval, we are updating the course code to be in line with the BBAI program core courses

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: BBAI	Course Number: 1300U
Full Course Title: Communicating with Data	
Short-Form Course Title (max. 30 characters): Communicating with Data	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (if applicable):

CLS (In Class Delivery)		HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	

Not Applicable

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

CONSULTATION (Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes ☐ No

WE HAVE CONSULTED WITH ALL IMPACTED AREAS? ☐ Yes ☐ NA

Please describe:

ARE THERE ANY CONSIDERATIONS FOR THE PRINCIPLES OF EQUITY, DIVERSITY, INCLUSION, OR DECOLONIZATION INCLUDED WITH THIS COURSE CHANGE? ☐ Yes ☐ No **Please explain:**

DOES THIS COURSE 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

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty:	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course Instructional Method (CLS, HYB, WB1, WEB)	☐ Learning outcomes
☐ Course number or course Subject code	☒ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☐ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

Adding BBAI 1950U as a prerequisite for BUSI 2603U so BBAI students have the course set correct with a statistics prerequisite prior to being able to enroll. Remaining prerequisites stay the same.

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: BUSI	Course Number: 2603U
Full Course Title: Intro to Operations Management	
Short-Form Course Title (max. 30 characters): Intro to Operations Management	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (if applicable):

CLS (In Class Delivery)		HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?**If yes:**

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

CONSULTATION (Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?☐ Yes ☐ No**WE HAVE CONSULTED WITH ALL IMPACTED AREAS?** ☐ Yes ☐ NA**Please describe:**

ARE THERE ANY CONSIDERATIONS FOR THE PRINCIPLES OF EQUITY, DIVERSITY, INCLUSION, OR DECOLONIZATION INCLUDED WITH THIS COURSE CHANGE? ☐ Yes ☐ No **Please explain:**

DOES THIS COURSE 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

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Business and IT	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course Instructional Method (CLS, HYB, WB1, WEB)	☐ Learning outcomes
☒ Course number or course Subject code	☐ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

BUSI 2800U was used as a placeholder course code until the new BBAI program was developed. Now that the BBAI program is in its final stages of approval, we are updating the course code to be in line with the BBAI program core courses

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: BBAI	Course Number: 2700U
Full Course Title: Fundamentals of AI for Business	
Short-Form Course Title (max. 30 characters): Fundamentals of AI for Business	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (if applicable):

CLS (In Class Delivery)		HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	

Not Applicable

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

CONSULTATION (Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes ☐ No

WE HAVE CONSULTED WITH ALL IMPACTED AREAS? ☐ Yes ☐ NA

Please describe:

ARE THERE ANY CONSIDERATIONS FOR THE PRINCIPLES OF EQUITY, DIVERSITY, INCLUSION, OR DECOLONIZATION INCLUDED WITH THIS COURSE CHANGE? ☐ Yes ☐ No **Please explain:**

DOES THIS COURSE 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

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Business and IT	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course Instructional Method (CLS, HYB, WB1, WEB)	☐ Learning outcomes
☒ Course number or course Subject code	☐ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

BUSI 3830U was used as a placeholder course code until the new BBAI program was developed. Now that the BBAI program is in its final stages of approval, we are updating the course code to be in line with the BBAI program core courses

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: BBAI	Course Number: 3650U
Full Course Title: Ethical and Legal Issues in Analytics and AI	
Short-Form Course Title (max. 30 characters): Ethical and Legal Issues in Analytics and AI	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (if applicable):

CLS (In Class Delivery)		HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	

WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

CONSULTATION (Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes ☐ No

WE HAVE CONSULTED WITH ALL IMPACTED AREAS? ☐ Yes ☐ NA

Please describe:

ARE THERE ANY CONSIDERATIONS FOR THE PRINCIPLES OF EQUITY, DIVERSITY, INCLUSION, OR DECOLONIZATION INCLUDED WITH THIS COURSE CHANGE? ☐ Yes ☐ No **Please explain:**

DOES THIS COURSE 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

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Business and IT	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course Instructional Method (CLS, HYB, WB1, WEB)	☐ Learning outcomes
☒ Course number or course Subject code	☐ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

BUSI 4800U was used as a placeholder course code until the new BBAI program was developed. Now that the BBAI program is in its final stages of approval, we are updating the course code to be in line with the BBAI program core courses

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: BBAI	Course Number: 3700U
Full Course Title: Business applications of AI	
Short-Form Course Title (max. 30 characters): Business applications of AI	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Grading scheme	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (if applicable):

CLS (In Class Delivery)		HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	

WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

CONSULTATION (Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes ☐ No

WE HAVE CONSULTED WITH ALL IMPACTED AREAS? ☐ Yes ☐ NA

Please describe:

ARE THERE ANY CONSIDERATIONS FOR THE PRINCIPLES OF EQUITY, DIVERSITY, INCLUSION, OR DECOLONIZATION INCLUDED WITH THIS COURSE CHANGE? ☐ Yes ☐ No **Please explain:**

DOES THIS COURSE 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

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

Appendix D – Faculty Information

Please include here only those currently at the institution and affiliated with the program. **Where available, link each faculty name to their Research or Profile page on the website.**

Name and Faculty Status/Rank	Terminal Degree	Home Faculty/Unit	Areas of Expertise	Role in New Program (Note if faculty will be teaching and/or supervising in the program)	Total Undergraduate Teaching (including New Program) (Note in bold type if faculty is a core course developer for the program)
Vargas Martin, Miguel - Professor	Ph.D.	FBIT	Cryptography and Network Security	Teaching and Supervising	2 courses total (including BBAI)
Serenko, Alexander - Professor	Ph.D.	FBIT	Scientometrics, Knowledge Management, Implicit Cognitive Processes	Teaching and Supervising	4 courses total (including BBAI)
Resch, Gabby – Assistant Professor	Ph.D.	FBIT	Data Visualization, Tangible and Embodied Interaction, Digital Fabrication...	Teaching and Supervising	3 courses total (including BBAI), Core course developer
Rastpour, Amir – Associate Professor	Ph.D.	FBIT	Stochastic Models, Queuing Theory, Statistics	Teaching and Supervising	4 courses total (including BBAI)
Munieb Sheikh, Ahmed – Associate Teaching Professor	M.Sc.	FBIT	Computer Science, Machine Learning, Computer Vision	Teaching and Supervising	6 courses total (including BBAI), Core course developer
Miedema, Theresa – Associate Dean, Academic and Student Affairs	Science Juris Doctor (S.J.D)	FBIT	Business Law and Ethics	Teaching and Supervising	6 courses total (including BBAI)
McGregor, Carolyn – Dean & Professor	Ph.D.	FBIT	Big Data Analytics, Event Stream Processing, Temporal Data Mining	Teaching and Supervising	N/A
McEachern Gaudet, Amanda – Undergraduate	MBA	FBIT	Experiential Learning	Teaching and Supervising	6 courses total (including BBAI)

Program Director - Commerce					
Mazaheri, Samaneh – Associate Teaching Professor	Ph.D.	FBIT	Artificial Intelligence, Computer Vision, Machine Learning	Teaching and Supervising	7 courses total (including BBAI)
Madani, Pooria – Assistant Professor	Ph.D.	FBIT	Adversarial Machine Learning, Intrusion Detection, Malware Detection	Teaching and Supervising	2 courses total (including BBAI), Course developer
Lu, Fletcher – Associate Professor	Ph.D.	FBIT	Mobile Fitness, Cybercrime, Insurance Fraud	Teaching and Supervising	2 courses total (including BBAI), Elective course developer
Karray, Salma - Professor	Ph.D.	FBIT	Marketing Analytics, Marketing Decision Models, Applications of AI in Business	Teaching and Supervising	4 courses total (including BBAI)
Jackson, Stephen – Associate Professor	Ph.D.	FBIT	Behavioral Information Security, Digital Transformation, Electronic Business	Teaching and Supervising	4 courses total (including BBAI)
Ibrahim, Amin – Associate Teaching Professor	Ph.D.	FBIT	Evolutionary Computation, Multi- and many-objective optimization, High-dimensional visualization	Teaching and Supervising	5 courses total (including BBAI), Core course developer
Hosseini-Nejad, Mehdi – Associate Dean	Ph.D.	FBIT	Strategy and International Business	Teaching and Supervising	6 courses total (including BBAI), Core course developer
Golmohammadi, Amirmohsen – Assistant Professor	Ph.D.	FBIT	Sustainable Supply Chain Management, Game Theory, Stochastic Optimization	Teaching and Supervising	3 courses total (including BBAI)

Bliemel, Michael - Professor	Ph.D.	FBIT	Business Analytics, Data Literacy, Digital Transformation	Teaching and Supervising	4 courses total (including BBAI), Core course developer
Aamir, Asifa – Associate Teaching Professor	MBA	FBIT	Information Systems and Technologies, Business Processes and IT, User experience	Teaching and Supervising	7 courses total (including BBAI)
Lewis, Peter – Associate Dean, Research and Graduate Studies	Ph.D.	FBIT	Artificial Intelligence, Socio-Technical Systems, Self-Awareness	Teaching and Supervising	1 course total (including BBAI)

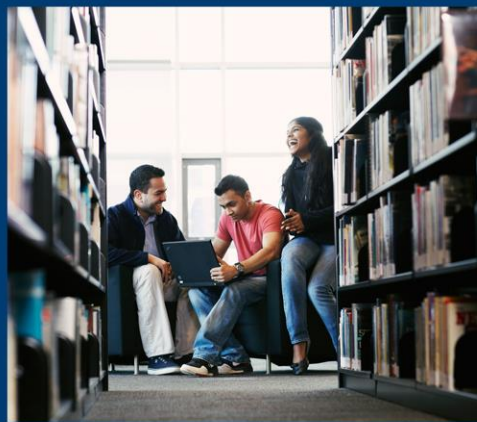
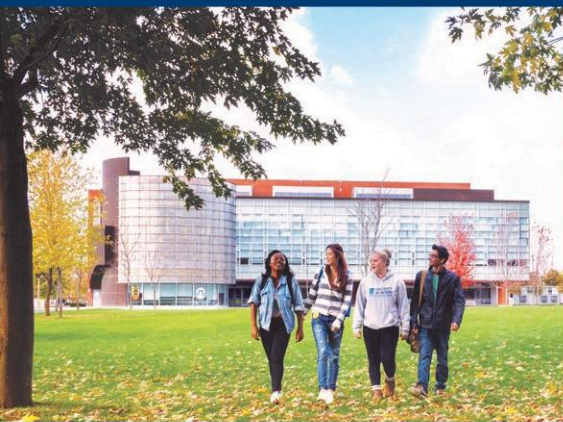
Undergraduate Thesis supervisory records/experience by faculty member (if applicable to the program)

Name	Undergraduate Theses Supervised Last 5 Years	Total Undergraduate Theses Supervised

New Program Assessment: Business Analytics and Artificial Intelligence, BBAI

Library Statement of Support Provided to Ontario Tech University

Prepared by: Nadya Lim-Douglas, Faculty of Business & IT Liaison Librarian, October 9, 2025





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Summary

Ontario Tech University Library's holdings in Faculty of Business & IT are strong.

The proposed Business Analytics and Artificial Intelligence program will focus on artificial intelligence and business analytics. The library holds 46,765 books and e-books with subject coverage of artificial intelligence.

The Library's research holdings, as well as archives and special collections total more than 85,433 print volumes and 229,433 journal subscriptions. In addition, our holdings include more than 1,658,434 e-books, and primary source materials. Collection strengths support the research and instructional programs at Ontario Tech University.

Opportunities exist to incorporate information literacy directly into the Business Analytics and Artificial Intelligence program. Student feedback from information literacy sessions overwhelmingly shows that students find the skills to be useful and that information literacy instruction should ideally be incorporated into first year classes. The following courses have been identified for delivering information literacy instruction:

- BUSI 1030U – Writing and Critical Thinking
- BUSI 2040U – Information Systems

Introduction

The Library supports the teaching, learning and research missions of Ontario Tech University and Durham College. Ontario Tech students have access to a joint collection of more than 85,433 print books. Additionally, our collections include extensive online resources such as e-books and online databases that are selected to meet curricular needs. Students and faculty are supported by a team of subject specialist librarians and trained library technicians who provide an array of research and teaching support services including information literacy instruction, workshops, research help and reference service.

Library Collections

The proposed Business Analytics and Artificial Intelligence program has curriculum connections with the existing Networking and IT security program as well as the Technology Management program, as such the library's holdings in the areas of artificial intelligence are strong.

The Library's collections budget for 2023-2024 totaled \$1,996,876. Approximately 96% of this budget is directed to online resources, while the remainder is allocated to acquisition of other formats, including journals, print books, multimedia and other specialized material.

With respect to programs in the Faculty of Business and IT, including the proposed Business Analytics and Artificial Intelligence program, our collection spans digital transformation, AI, data, open-source technologies, and business ethics. Further, the collection covers topics of interdisciplinary relevance such as management, accounting, marketing, and economics.

Collection suggestions are welcome and faculty and students are encouraged to contact their subject specialist. All recommended purchases are evaluated according to the Collection Development Policy and with consideration to budget constraints.

Consortial Licensing

By virtue of our membership in two key consortia, the Ontario Tech University community benefits from the increased bargaining power of a collective through which we subscribe to a wide array of scholarly content. Canadian Research Knowledge Network (CRKN) members represent 81 institutions across Canada that include world-class academic libraries and research institutions, two national libraries, and Canada's largest public library system.

The Ontario Council of University Libraries (OCUL) is a consortium of Ontario's 21 university libraries which works together to maximize our collective expertise and resources. OCUL enhances information services in Ontario and beyond through collective purchasing and shared digital information infrastructure, collaborative planning, advocacy, assessment, research, partnerships, communications, and professional development.

Journals

Our journal holdings in disciplines related to the proposed Business Analytics and Artificial Intelligence Program are strong, including coverage related to business, technology, and computer science.

Library Statement for Business Analytics and Artificial Intelligence Program Proposal

Students and researchers can access nearly complete journal suites, in many cases including archives, from publishers such as:

- Association for Computers and Machinery
- IEEE
- Sage
- EBSCO
- ProQuest
- INFORMS
- Intertek i2i

We provide access, through subscription, to many of the relevant journals with the highest impact factors, according to Clarivate's Journal Citation Reports (JCR) database (2024).

By subject category:

JCR Subject Category	Ontario Tech Access	Select Titles
List Relevant Subject Categories	# we have/Total	• List select highly ranked journal titles
Computer Science, Artificial Intelligence	/205	• Nature Machine Intelligence • IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE • Information Fusion
Business	/317	• Academy of Management Annals • Journal of Innovation & Knowledge • Business Strategy and the Environment

Books & E-Books

As noted, we provide access to over 85,433 print books and over 1,658,434 e-books that support teaching, learning and research across all programs and disciplines. Students and faculty have access to collections of books and e-books from major academic publishers, including:

- SAGE
- MIT Press
- Emerald Publishing
- Springer Nature

Through the Omni Library Search, students and faculty have access to books from Ontario Tech and other Omni member universities by searching Ontario Tech + Omni Libraries. Articles and books that are not available through Omni Libraries, can be requested through our interlibrary loan service.

Library Statement for Business Analytics and Artificial Intelligence Program Proposal

The following table highlights Library holdings by subject heading for print books and e-books that encompass the Library's Business Analytics and Artificial Intelligence collection.

Subject	# Print Books	# E-Books
Machine Learning	55	10,755
Artificial Intelligence	212	43,154
Business	3,662	117,388

Search Tools

The Library subscribes to many research databases and indexes that provide access to the literature in Business Analytics and Artificial Intelligence. Systematic searching of these resources enables students and faculty to access journals and other academic resources such as conference proceedings, theses and dissertations, trade publications and reports.

Highly Relevant Databases: Business	Relevant Databases: Multidisciplinary	Relevant Databases: Related Disciplines
• Business Source Complete • ProQuest One Business • Sage Business Cases	• Web of Science • Scopus • Scholars Portal	Computer Science: • IEEE Xplore Digital Library • ACM Digital Library • Computers & Applied Sciences Complete

Other Library Resources

Intertek i2i provides simultaneous access to standards in electronic format. This custom collection is curated by the Library. Faculty and students can request access to standards by contacting the Library.

Data Resources

To support research that requires statistics and datasets, the Library subscribes to three main resources:

- **Data Liberation Initiative (DLI):** Access to datasets from Statistics Canada surveys including public use microdata files (PUMF).
- **odesi:** A web-based data exploration, extraction and analysis tool that enables researchers to search for variables across thousands of datasets including Statistics Canada datasets and polling data.
- **Interuniversity Consortium for Political and Social Research (ICPSR):** Access to a data archive of more than 250,000 files of research in the social and behavioral sciences. Includes specialized collections of data in education, aging, criminal justice, substance abuse, terrorism, and other fields. Resources for teaching and learning include classroom exercises and materials to support data literacy in the classroom.

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In addition, we provide access to Borealis: The Canadian Dataverse Repository, which supports research data management and open access data requirements for Tri-Agency research funding compliance.

Multimedia Resources

The Library acquires DVD and streaming video resources that are relevant to the disciplines in the the proposed Business Analytics and Artificial Intelligence program. Multimedia resources are selected individually or as part of standing subscriptions.

Our collection includes 807 DVDs and 20,065 Streaming Video titles. Of these multimedia resources, the following are particularly relevant to the curriculum in the proposed Business Analytics and Artificial Intelligence Program.

Relevant Streaming Video Collections

Streaming Video Collection	Relevant Titles
Kanopy Streaming	• Business: 1.8k titles • Computer Science and Technology: 504

Select Recently Added Multimedia Titles

- Posthumans (2025)
- AI Revolution (2024)
- *Secrets in Your Data* (2024)
- *AI Tipping Point* (2023)
- *AI vs Human: The Creativity Experiment* (2023)

Library Services

A range of library services support teaching, learning and research at the University. Students and faculty in the proposed Business Analytics and Artificial Intelligence program will have access to services in-person, online and via email or telephone.

Research Support

The Library plays a vital role in supporting student and faculty research at Ontario Tech.

Reference Service & Research Consultations

Students and faculty have access to research support in-person and online, via telephone, email and through online chat help. In the 2023-2024 academic year, library staff answered 8,693 research questions from the Ontario Tech community.

Librarians provide individualized research consultations with students and faculty, in person or online. These consultations are tailored to meet the needs of individual researchers and can cover a range of topics from basic introductions to more advanced search techniques and support for literature reviews. In the 2023-2024 academic year, Librarians participated in 12 research consultations with members of the Faculty of Business and IT.

Open Access & Research Data Management

We provide support to faculty and students in complying with the Tri-Agency Open Access Policy (SSHRC, NSERC, CIHR). Faculty and students can make their work open by publishing in an open access

or hybrid journal, by depositing their work in a subject repository, or by depositing their work in Ontario Tech's institutional repository, eScholar (<https://ir.library.ontariotechu.ca>).

We also provide direct support to Faculties through dedicated subject specialist/liaison librarians and online guidance with the Library's Open Access Guide (<http://guides.library.ontariotechu.ca/openaccess>). The Library has a Research Data Management guide (<http://guides.library.ontariotechu.ca/rdm>) to support faculty and students in creating data management plans and sharing research data.

During the 2023-2024 academic year, these guides were viewed 1,442 times.

Research Metrics & Impact

The Library supports various departments on campus by fielding requests for reports on author, article, journal and institutional metrics. Subscribed tools include: Web of Science, Scopus and Journal Citation Reports (JCR).

Our Research Metrics guide (<http://guides.library.ontariotechu.ca/researchmetrics>) provides background information and support for these tools.

Theses & Dissertations

To ensure that the Ontario Tech community has access to national and international thesis and dissertation databases, we provide access to PQDT (ProQuest Dissertations and Theses) and the Theses Canada Portal. The Library plays a key role in the dissemination and preservation of Ontario Tech theses, managing copies in the institutional open-access digital repository, E-Scholar, as well as maintaining print copies in the Library archives.

Teaching & Learning Support

As partners in teaching and learning at Ontario Tech, we provide a range of instructional and curriculum supports, both in person and online.

Information Literacy Instruction

In collaboration with teaching faculty, Librarians deliver customized information literacy instruction that support the development of students' 21st century skills to successfully search, evaluate and ethically use scholarly resources in their course requirements. These library services are aligned with the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education. Information literacy sessions are tailored to the specific requirements of the course or assignment. Information literacy may be delivered synchronously or asynchronously to classes, in person or online. Library information literacy modules are available in the Canvas Learning Management System and can be adapted and added direct into courses, or instructors can opt for asynchronous recordings.

In the 2023-2024 academic year, 1,807 students in the Faculty of Business and IT received instructional support from a Librarian. Information literacy instruction will be integrated in the proposed Business Analytics and Artificial Intelligence program in the following existing Faculty of Business and IT courses:

- BUSI 1030U – Writing and Critical Thinking
- BUSI 2040U – Information Systems

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Students may also receive Information Literacy instruction from a Librarian in their elective or communications courses.

Ideally, Information Literacy instruction is scaffolded across the required curriculum, enabling students to build increasingly sophisticated research skills throughout their program of study. Student feedback from information literacy sessions indicates that 78% of students felt more confident using the library after receiving library instruction, 84% of students felt that they learned something new, and that students often wish they could have received this training earlier in their program. Some comments include:

- “Definitely could have used this tutorial in prior classes for research”
- “I wish I had known about this stuff in first year”
- “I wish I had learned about this 3 years ago”
- “I wish this was mandatory for all first year students”
- “I think this course would be great for all first year students”

The following courses have been identified as potential Information Literacy touchpoints, due to the research skills outcomes built into the curriculum:

- MBAI 5200 – Ethical and Legal Issues in Analytics and AI
 - PLO: Evaluate implications of analytical models from multiple perspectives while identifying issues and challenges associated with strategic value, business ethics, bias, privacy, trust, and equity.
- MBAI 5100 – Business Analytics
 - PLO: Understand, analyze, and create AI models, tools, and workflows for business problems utilizing commercial and/or open source technologies.

Co-curricular Workshops

In addition to Information Literacy instruction that is integrated into the curriculum, the library offers a number of co-curricular workshops that help develop student and faculty skills. Some examples of workshops offered to Ontario Tech students in the past include:

- 3D Printing
- Managing Your Research Identity
- Citation Management
- Finding and Using Open Educational Resources

Workshop offerings are regularly updated in response to the changing needs of the community.

Online Research Guides

Subject specialist librarians create custom Research Guides for each subject area that are available from the Library website. Research Guides include program and course guides that are directly related to the program and course curriculum, as well as topic guides that have cross-disciplinary relevance. Research Guides of particular importance to students in the the proposed Business Analytics and Artificial Intelligence program include:

- Networking & IT Security: <https://guides.library.ontariotechu.ca/networkingITsecurity>
- Business: <https://guides.library.ontariotechu.ca/business>

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During the 2023-2024 academic year, these guides were viewed a combined 1,032 times.

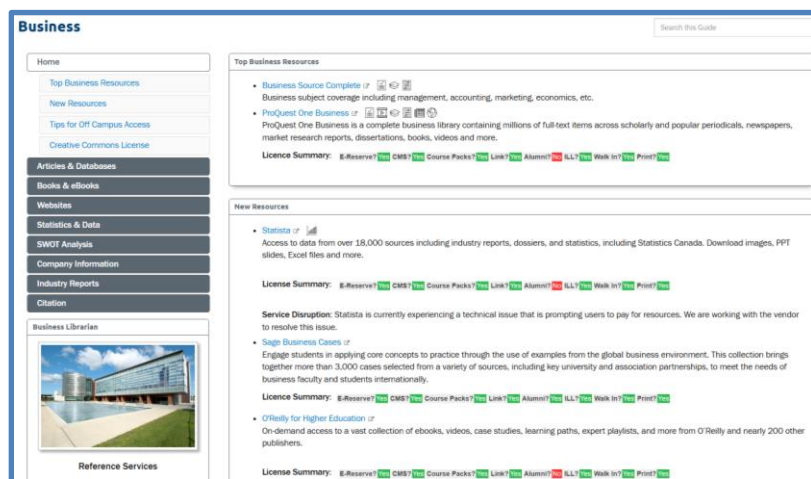


Figure 1 Business Research Guide

Copyright & Academic Integrity

The Library provides copyright guidance for faculty and students. Library staff advise on license terms and the integration of content into the Learning Management System (LMS). We also help faculty find, evaluate and integrate Open Educational Resources into their courses.

Our research support services including our citation guides help students avoid plagiarism and comply with the University's Academic Conduct policy.

Course Reserves

Instructors can place materials on course reserve in the library, or make course materials available online through our electronic course reserves system. Online course reserves can include the library's print holdings, as well as digitized chapters, and links to journals, e-book chapters, videos and more. We are dedicated to providing equitable access to resources, and our online reserves are subject to copyright compliance and licensing restrictions.

3D Printing & Equipment Loans

Students have access to 3D printers and 3D printing workshops and can borrow equipment such as laptops and device chargers.

Library Staffing

The anticipated intake for students in the the proposed Business Analytics and Artificial Intelligence program program for years 1-4 is as follows:

	2026	2027	2028	2029	2030	2031
Y1	40	45	55	60	65	75

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Y2		40	45	55	60	65
Y3			40	45	55	60
Y4				40	45	55
Total	40	85	140	200	225	255

We anticipate that there will be additional staffing requirements associated with growth in graduate and undergraduate degree programs across the University. These requests will be part of the regular budget planning process, following a fulsome and strategic analysis of our staffing needs.

Conclusion

The Library is well-positioned to support the proposed Business Analytics and Artificial Intelligence program. Our suite of services and programs will meet the needs of students and faculty in this program.

We look forward to working in collaboration with students and faculty in this new program.

Appendix H - 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 Bookstore](#), [Housing and Living Resources](#) as well as the [Ontario Tech Student Union](#). Further information can be found at: <http://studentlife.ontariotechu.ca/>.

Faculty-Specific Support

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

Student Life

Student Learning Centre

Ontario Tech University fosters a high level of academic excellence by working with students, undergraduate and graduate, to achieve educational success. Faculty specific academic resources are available online and include tip sheets and videos. Academic specialists offer one-on-one support services in mathematics, writing, study skills, ESL and physics. With the additional support of peer tutors and workshops, the Student Learning Centre can also accommodate the needs of a specific course or program.

Student Accessibility Services

Ontario Tech University ensures that students with disabilities have equal opportunities for academic success. Student Accessibility Services operates under the Ontario Human Rights Code and the Accessibility for Ontarians with Disabilities Act. Services and accommodation support are provided for students with documented disabilities and include:

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

Student Accessibility Services also provides inclusive peer spaces, support groups, and skills workshops for students.

Career Readiness

Ontario Tech University offers comprehensive career service assistance, co-op and internship support 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 internships
- Interview preparation
- Job market information
- Job search strategies

The Career Centre hosts a variety of events during the academic year including employer information and networking sessions, job fairs and interviews conducted by leading employers.

Student Engagement, Equity and Inclusion, and **Indigenous Education and Cultural Services**

The university supports students' successful transition and provides opportunities to develop leadership and professional skills throughout their university career. Services provided include:

- Equity and inclusivity programming and support groups
- Indigenous Education and Cultural Services provides space and supports for students to connect with Indigenous culture and resources
- Opportunities to grow and develop leadership skills through the Ambassador and Peer Mentorship program
- Orientation and events through first year
- Peer mentoring
- Services and supports for international and exchange students
- Specialized programming for first-generation, graduate, Indigenous, international, mature, online, transfer and diploma-to-degree pathways students

Student Mental Health Services

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

- Access short term counselling and therapy services
- Access tools and resources online to learn about mental health and how to maintain good health and wellness
- Attend drop-in sessions
- Participate in events, activities or support groups that promote positive health and well-being
- Work with a mental health professional to address concerns

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 SAFA 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).

Teaching & Learning Centre

The mission of the Teaching and Learning Centre (TLC) at Ontario Tech University 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 University 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.

Information Technology Resources

Ontario Tech University is a leader among North American universities in implementing and using curriculum and industry specific software in a technology-enriched learning environment (TELE). Our unique environment is adapted to each discipline based on faculty requirements and input for optimal student learning. We are committed to providing the greatest value for students' investment in education and technology while studying at Ontario Tech University.

One of the greatest advantages of Ontario Tech University's approach to TELE is that all students have equal access to the same technology, resources and services. Whether you are inside or outside of the classroom, your course-specific software allows you to work on your own or with others and enjoy seamless access to all Ontario Tech online resources. TELE supports Bring-your-own-device (BYOD) which provides you with laptop standards when acquiring the right laptop for your program and software support services onsite and online. An annual fee for TELE covers a wide range of program-specific software, technical software support, exam support and virus protection.

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 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.

Exam support services

IT Services provide hardware, software and technical support during examinations. IT team will be equipped with loaner laptops in the event of major technical issues.

Laptop repairs

IT Services provide on campus repairs on eligible laptop models.

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.

General Use Workstations (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.

REVIEWERS' REPORT FOR NEW PROGRAMS

Reviewers' Report on the Proposed (Bachelor) Program in (Business Analytics and Artificial Intelligence) at (Ontario Tech University)

Dr. Eman Almehdawe
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Dr. Suchit Ahuja
Associate Professor
John Molson School of Business
Concordia University
1455 De Maisonneuve Blvd. W.
Montreal, QC H3G 1M8

1. OUTLINE OF THE REVIEW

Please indicate whether this review was conducted by desk audit or site visit. For those reviews that included a site visit, please indicate the following:

The review was conducted by a site visit on Jan 14-15.

- Who was interviewed:

Interviews were conducted with the leadership team of the FBIT, including Dr. Carolyn McGregor, Dr. Mehdi Hossein-Najjad, Dr. Gabby Resch, and Dr. Andrew Hogure. Additionally, we met with nine faculty members from areas related to the BBAI program. We also engaged with staff from various departments, including the Student Learning Center, Experiential Learning and Career Development, Counselling and Accessibility, Athletics and Recreation, and the library. Furthermore, student support staff were involved, such as the Operations and Planning staff, Academic Planning and Advising, Lab Technicians, and the Executive Assistant to the Dean. Lastly, we conducted remote interview with six students from FBIT.

- What facilities were seen:

In addition to Management Faculty building we were hosted in, we went for a campus tour in which we viewed several classrooms, the library, a number of labs, retro gaming lab, IT networking lab and data center.

- Any other activities relevant to the appraisal:

We had access to lots of secondary resources like current program brochures, website, etc. that provided background information on how the new program proposal and its different components would fit into the overall strategic vision of Ontario Tech University.

2. EVALUATION CRITERIA

NOTE: Reviewers are asked to provide feedback on each of the following Evaluation Criteria ([Quality Assurance Framework 2021, Section 2.1.2](#)).

2.1 Program Objectives

- Clarity of the program's objectives: The program objectives are well articulated in nine learning outcomes as follows:
 - Evaluate opportunities for digital transformation and implementation of AI and business analytics in new and existing processes
 - Choose and implement appropriate business analytics and AI tools and methodologies to solve business problems using data-driven decision making practices
 - Synthesize data-driven insights to create impactful presentations and reports for diverse audiences
 - Manage and lead data projects from end to end, recognizing various stages including opportunity recognition, scoping, maintenance, and drift determination
 - Determine appropriate data management principles for database design, data storage, data infrastructure implementation, and administration challenges
 - Evaluate and compare the significance and reliability of competing AI models and business analytics methodologies
 - Create, analyze, and implement AI models, tools, and workflows for business problems utilizing commercial and/or open source technologies
 - Evaluate implications of analytical models from multiple perspectives while identifying issues and challenges associated with strategic value, business ethics, bias, privacy, trust, and equity
 - Research analytics and AI technologies within the context of core business functions, financial processes, economic principles, and management concepts, and make use of the acquired knowledge to analyze and solve business problems

- Appropriateness of degree nomenclature given the program's objectives:

Given the program objectives, the nomenclature seems appropriate and unique among other Canadian undergraduate programs. We discussed the nomenclature with the faculty members, staff, and students we interviewed while on-site, and confirmed that the nomenclature was both unique and appealing to them. Although there were similarly themed programs such as analytics, intelligence, etc. offered by other institutions in the region, none of them were clearly rooted within the AI domain.

- Consistency of the program's objectives with the institution's mission and academic plans:

The proposed program is consistent with the values, mission, and vision of the university. It brings the university's "tech with a conscience" priority to life by using technology to improve everyday experiences and support global well-being. It blends in-person and online learning, hands-on projects, and on- and off-campus activities to create an engaging campus and build 21st-century skills for an uncertain economy and changing job market. The program reflects the university's values of intellectual resilience and innovation by helping students become leaders in business analytics and artificial intelligence, which are central to today's research, business growth, and social and economic change. It also supports the Faculty of Business and IT's mission by giving students the skills, knowledge, and networks they need for today's workplaces, while preparing them to keep learning and adapting in the future.

2.2 Program requirements

- Appropriateness of the program's structure and the requirements to meet its objectives and program-level learning outcomes.
The sequencing of courses as proposed support the program objectives and program requirements as illustrated in Appendix A of the proposal.

- Appropriateness of the program's structure, requirements and program-level learning outcomes in meeting the undergraduate or graduate Degree Level Expectations.

The program is well-structured, with foundational and reinforcement knowledge as well as experiential learning principles playing a key role. The course sequencing supports a foundational understanding of the main principles in the first two years and progresses to advanced learning outcomes in the final two years via courses like Strategic Management of Analytics and AI Systems, Advanced Business Intelligence, and Responsible Analytics - Ethical, Legal, Policy, and Social Implications of Analytics and AI.

- Appropriateness of the proposed mode(s) of delivery to facilitate students' successful completion of the program-level learning outcomes

The BBAI will be a hybrid program, with most courses delivered in person and on campus. Each element of this design plays an important role in helping students achieve the program learning outcomes.

- **Hybrid format (mix of delivery modes):** A hybrid structure lets students experience the best of both worlds: the structure, engagement, and immediacy of face-to-face learning, alongside the flexibility and digital fluency that come from online components. This balance reflects how modern workplaces operate, where in-person collaboration and virtual tools are both essential.
- **Majority in-person and on campus:** Prioritizing in-person learning supports deeper interaction with faculty, peers, and industry guests, which is critical for complex, applied fields like business analytics and AI. Regular on-campus presence also helps build a strong learning community, supports mentorship, and encourages spontaneous collaboration, all of which strengthen students' ability to tackle real-world, data-driven problems.
- **On-campus environment:** Being physically present on campus gives students access to labs, software, specialized hardware, and other resources that are difficult to replicate remotely. It also exposes them to co-curricular opportunities—such as clubs, events, and networking activities—that reinforce professional skills, ethical awareness, and interdisciplinary thinking central to the program's goals.
- **Alignment with learning outcomes:** Together, these delivery modes are well-suited to support the program's intended outcomes: they allow for hands-on practice with analytical tools, collaborative projects that mirror workplace dynamics, and frequent feedback from instructors. The mix of formats also helps students develop adaptability, communication skills, and digital literacy, which are explicitly and implicitly embedded in the program learning outcomes.

- Ways in which the curriculum addresses the current state of the discipline or area of study

The proposed curriculum effectively reflects the current state of the art in analytics and AI, incorporating up-to-date methods, tools, and concepts that prepare students for modern practice and emerging trends in the field. At the same time, the breadth and depth of new content signal an ambitious design that aims to position the program as a leader rather than a follower in this domain.

However, introducing such a large number of new courses within the proposed launch timeline may present significant implementation risks. Developing multiple new courses at once requires substantial faculty time for design, content creation, assessment planning, and quality assurance, as well as coordination across instructors to ensure coherence and avoid overlap. It also depends on having enough qualified instructors, technical support, and infrastructure in place from the outset, which may be challenging to secure on a compressed schedule.

Given these constraints, it may be prudent to consider a phased rollout of new courses, prioritizing those most critical to the program's core learning outcomes in the first year or two. This would allow time to pilot, refine, and sequence courses properly, while still maintaining alignment with the cutting edge of analytics and AI. Such an approach can help balance ambition with feasibility, reduce workload pressure on faculty and staff, and support a more sustainable, high-quality implementation of the curriculum.

2.3 Program requirements for graduate programs only

- Clear rationale for program length that ensures that students can complete the program level learning outcomes and requirements within the proposed time
 - Evidence that each graduate student in the program is required to take a minimum of two-thirds of the course requirements from among graduate-level courses
 - For research-focused graduate programs, clear indication of the nature and suitability of the major research requirements for degree completion
- NA

2.4 Assessment of teaching and learning

- Appropriateness of the methods for assessing student achievement of the program-level learning outcomes and degree level expectations

The curriculum map in the program proposal is clear and effectively shows how each course connects to the program-level learning outcomes. The formative and summative assessment tools in Section 8 of the proposal also clearly describe how student progress and performance will be measured.

To strengthen this further, it is recommended that program-level assessments be intentionally designed and implemented across all degree levels. This ensures the degree expectations truly align with and support achievement of the program learning outcomes. We recommend these steps because we envision that it will support the following critical elements that will ultimately lead to a sustainable curriculum cycle:

- Vertical alignment: Assessments at the foundational, intermediate, and advanced levels should build progressively, scaffolding skills from basic competency to mastery. This confirms that early courses lay the groundwork for later ones and that graduates meet holistic program goals.
- Gap identification: Spanning assessments across levels helps spot any mismatches early, such as if lower-level courses overemphasize theory while higher-level ones demand untaught practical skills.
- Quality assurance: It provides evidence for accreditation, external reviews, or institutional audits that the program delivers on its promises, enhancing credibility and continuous improvement.
- Student success: Clear, leveled assessments give students transparent milestones, reducing confusion and boosting motivation as they see their growth toward professional readiness in business analytics and AI.

This addition would make the proposal even more robust without major changes.

- Appropriateness of the plans to monitor and assess:
 - i. The overall quality of the program: The current program effectiveness plan mentions the review process every eight years. This is a long time frame for such a dynamic and evolving program. It is highly recommended that reviews are conducted in shorter time frame. It is recommended that the potential 18-month report is made mandatory in order to monitor the overall quality of the program which might include student data (GPA, retention, ..), student surveys, faculty surveys and academic support staff surveys.
 - ii. Whether the program is achieving in practice its proposed objectives: The BBAI program's primary objective is to produce career-ready graduates with a deep, integrated understanding of analytics and artificial intelligence, equipping them to excel in data-driven roles across industries. A precise and multi-faceted approach to assessing achievement of this objective involves analyzing key performance indicators tied directly to practical application and employability:
 - Student co-op reports and internships: Review detailed reports from co-op placements and internships for evidence of applied skills, such as proficiency in data modeling, AI tool implementation, predictive analytics projects, and contributions to real-world business challenges.
 - Employer surveys: Conduct structured post-placement surveys with employers to gauge graduate preparedness, focusing on specific competencies like AI algorithm deployment, analytics interpretation for business strategy, teamwork in cross-functional data projects, and adaptability to industry tools (e.g., Python, TensorFlow, Tableau).
 - Success rate in relevant student competitions: Track participation and outcomes in targeted competitions such as Kaggle data science challenges, AI hackathons (e.g., those hosted by IEEE or local tech hubs), analytics case competitions (e.g., INFORMS or MIT Sloan), or university-level AI/ML contests.
 - Employment data (post-graduation): After the first cohort graduates, collect and analyze 6- and 12-month employment rates in relevant fields (e.g., data analyst,

AI specialist, business intelligence roles), salary benchmarks against industry standards, job placement speed, and retention in analytics/AI positions.

- iii. Whether its students are achieving the program-level learning outcomes: Similar to part ii above.
- iv. How the resulting information will be documented and subsequently used to inform continuous program improvement:
A committee could be established to facilitate the monitoring and continuous improvement of the new program.

2.5 Admission requirements

- Appropriateness of the program's admission requirements given the program's objectives and program-level learning outcomes: The proposed admission requirements are well-suited to the target applicant pool for the BBAI program. Given its unique blend of business analytics and AI—rare in undergraduate offerings—and its technical depth, the program is likely to draw a diverse, high-caliber group of applicants from STEM-interested high schoolers, international students, and those eyeing data-driven careers. To attract and select the *best* students (rather than settling for a broad pool), tailoring requirements beyond standard BBA or BSc thresholds is critical. This ensures entrants have the foundational rigor needed to thrive in a demanding curriculum from day one, while signaling the program's prestige. Differentiation positions BBAI as selective and specialized, enhancing reputation, accreditation chances (e.g., with AACSB or ABET), and appeal to employers seeking "plug-and-play" hires. Better-prepared students accelerate learning, excel in co-ops/competitions, and achieve higher employment outcomes—directly tying to the career-readiness objective. A strong incoming class sustains momentum for new courses and hybrid delivery, avoiding overload on faculty/support resources from remedial needs.
- Sufficient explanation of alternative requirements, if applicable, for admission into a graduate, second-entry or undergraduate program, e.g., minimum grade point average, additional languages or portfolios, and how the program recognizes prior work or learning experience: NA

2.6 Resources for all programs

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

- Participation of a sufficient number and quality of core faculty who are competent to teach and/or supervise in and achieve the goals of the program and foster the appropriate academic environment: The current number faculty members that are expected to be involved with the program is not yet sufficient to achieve the goals of the program. But it was noted in the proposal and through the in person interviews with the faculty leadership team that there are plans to hire new teaching and tenure track faculty to build some of the new courses. It is recommended that additional faculty in the area of Analytics and AI are hired as the program grows.

- If applicable, discussion/explanation of the role and approximate percentage of adjunct and part-time faculty/limited term appointments used in the delivery of the program and the associated plans to ensure the sustainability of the program and quality of the student experience

Given the number of students in the cohort, it is recommended to hire some limited term faculty members to build the new proposed courses that are not covered by the current or prospective faculty hires. This would ensure more control over the courses' content and its alignment with the program level objectives.

In general, FBIT is well-positioned to make the case for more hiring due to its consistently growing body of students and demands for new programs. If required, supervision should be provided for co-op, internships, and projects via faculty advisors and mentors. Impact on and cannibalization of other programs must be considered. Adequate library, IT, and lab resources must be provided to sustain student scholarship and research quality. If necessary, institutional resources should be planned to be diverted to support ongoing program implementation.

2.7 Resources for graduate programs only

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

- Evidence that faculty have the recent research or professional/clinical expertise needed to sustain the program, promote innovation, and foster an appropriate intellectual climate
- Where appropriate to the program, evidence that financial assistance for students will be sufficient to ensure adequate quality and numbers of students
- Evidence of how supervisory loads will be distributed, in light of qualifications and appointment status of the faculty

2.8 Quality and other indicators

- Evidence of quality of the faculty (*e.g.*, qualifications, funding, honours, awards, research, innovation and scholarly record; appropriateness of collective faculty expertise to contribute substantively to the program and commitment to student mentoring)

The Faculty of Business and IT (FBIT) at Ontario Tech University has notable strengths in business analytics, AI, data science, and related areas, alongside others in operations, MIS, and networking with AI/ML expertise. These align perfectly with the BBAI curriculum, supported by specialized labs and other hands-on pedagogy. Current FBIT faculty anticipated to teach in the BBAI program are highly qualified, as confirmed through site visit meetings and proposal resumes. Their PhDs from top institutions, publications in high-impact journals (*e.g.*, on machine learning for business, predictive analytics), and industry collaborations demonstrate expertise in core areas like AI programming, big data systems, ethical AI, and business decision models. This depth ensures rigorous delivery of proposed courses.

- Any other evidence that the program and faculty will ensure the intellectual quality of the student experience

During the site visit meeting with current FBIT students, it became evident that faculty consistently exceed expectations to elevate the intellectual quality of the student experience. Students highlighted specific examples, such as professors offering impromptu office hours for complex analytics problems, organizing guest lectures from industry AI leaders, and providing personalized feedback on projects that went far beyond standard grading rubrics. This culture of going "above and beyond" directly bodes well for the BBAI program, ensuring incoming students receive similarly enriched learning that translates to career readiness and high engagement.

NOTE: Reviewers are urged to avoid using references to individuals. Rather, they are asked to assess the ability of the faculty as a whole to deliver the program and to comment on the appropriateness of each of the areas of the program (fields) that the university has chosen to emphasize, in view of the expertise and scholarly productivity of the faculty.

3. EQUITY, DIVERSITY, INCLUSION, AND DECOLONIZATION

Please comment on any consideration of the principles of equity, diversity, inclusion, and decolonization in the new program.

The program includes courses that are related to EDI and decolonization. For example: AI and Inequality and Indigenous Data and OCAP Principles. It is anticipated that other content will be embedded in other courses as well.

4. OTHER ISSUES

- Please highlight any unique curriculum or program innovation, creative components, or significant high-impact practices: hands on labs, hybrid mode of delivery, simulations and games, competitions. The boot camp that is sometimes delivered by faculty members to help students who do not have the basic background in some courses.
- Please identify any other issues that may not be covered above: The proposed Analytics and AI program is a hands-on program that will require students learning and using technology during the lecture time. The current plan to have most classes in general classroom setup will create a burden on the instructor managing software, data, hardware, and network issues. This program would highly benefit from delivering many of the technical and interactive components in a lab rather than a classroom. Tutorials are also recommended to help students apply the knowledge from the class.

5. SUMMARY AND RECOMMENDATIONS

Please provide a summary of your conclusions and include a numbered list of each of your recommendations.

The external review concludes that the proposed BBA in Business Analytics and AI (BBAI) at Ontario Tech University is a well-designed, forward-looking, and strategically aligned program with strong potential to become a distinctive undergraduate offering in Canada. The program objectives, curriculum structure, and hybrid delivery model are coherent and aligned with institutional priorities, disciplinary trends, and workforce needs in analytics and artificial intelligence. Faculty expertise, institutional support services, and experiential learning opportunities provide a solid foundation for high-quality delivery and student success.

At the same time, the review identifies several implementation and sustainability risks associated with the ambitious scope of new course development, current faculty capacity, and resource alignment for a technically intensive program. Strengthening program-level assessment design, accelerating quality-monitoring cycles, ensuring sufficient specialized faculty hiring, and

enhancing infrastructure (particularly lab-based delivery) are viewed as critical to maintaining curriculum quality and achieving the program's career-readiness objectives. Overall, the program is judged to be academically sound and innovative, with strong alignment to the university mission and disciplinary expectations, but requiring targeted investments in staffing, facilities, assessment integration, and staged implementation to ensure successful launch and long-term sustainability.

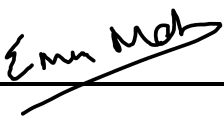
In summary, we recommend the following to enhance the quality of this unique program:

1. Adopt a phased rollout of new courses: Prioritize core analytics and AI courses in the initial years and stage the introduction of remaining new courses to reduce development burden, ensure coherence, and support quality assurance.
2. Strengthen program-level assessment across all years: Design vertically aligned assessments spanning foundational, intermediate, and advanced levels to ensure progressive skill development and clear alignment with program learning outcomes.
3. Implement more frequent program quality monitoring: Make the 18-month post-launch review mandatory and establish ongoing monitoring using student performance, retention, surveys, and stakeholder feedback rather than relying solely on the eight-year review cycle.
4. Establish systematic outcome-tracking for career readiness: Monitor achievement of program objectives using co-op evaluations, employer surveys, competition participation, and graduate employment outcomes (6- and 12-month metrics).
5. Create a standing program advisory/quality committee: Form a committee responsible for continuous improvement, assessment review, and use of performance data to guide curriculum and delivery adjustments.
6. Increase faculty complement in analytics and AI: Recruit additional tenure-track and teaching-stream faculty with expertise in analytics and AI to support course development, delivery, and program growth.
7. Use limited-term faculty strategically during launch: Hire limited-term instructors to develop and deliver new courses not covered by current faculty while maintaining alignment with program objectives.
8. Ensure adequate technical infrastructure and lab-based delivery: Deliver technical and hands-on components in computing labs rather than general classrooms to reduce instructional burden and support software, hardware, and network requirements.
9. Introduce structured tutorials for technical courses: Provide tutorial or lab sessions to reinforce applied learning and support students in mastering analytics and AI tools.
10. Plan institutional resource alignment for program growth: Ensure sufficient IT, library, lab, and student-support resources and consider impacts on other programs as enrolment expands.
11. Maintain selective and differentiated admission standards: Continue positioning the program as specialized and rigorous to attract well-prepared students capable of succeeding in the technical curriculum.

NOTE: The responsibility for arriving at a recommendation on the final classification of the program belongs to the Appraisal Committee. Individual reviewers are asked to refrain from making recommendations in this respect.

Signature: _____

Date: 17-02-2026

Signature:  _____

Date: 17-02-2026



Faculty Response to the External Review for the
Bachelor of Business Analytics and Artificial Intelligence

Submitted By:

Mehdi Hossein Nejad (Co-Chair IAT)

Gabby Resch (Co-Chair IAT)

Andrew Hogue (AD)

Joel Stewart (Staff)

March 26, 2026

Carolyn McGregor AM (Dean)

March 31, 2026

Process:

FBIT UEC (March 31, 2026) -> FBIT FC (April 7th, 2026)

Introduction

Brief comments on the external reviewers report and the program review process in general.

We would like to thank the reviewers for taking the time to complete the review of the BBAI program proposal. Their recommendations are thorough and thoughtful and were very helpful in this phase of program development.

There are a few minor changes in proposal as a result (see below). Most recommendations are operational in nature and anticipated to be implemented in a phased approach as the program progresses.

Summary of Recommendations and Faculty Responses

- *Restate the recommendations summarized in the external reviewers' report and provide the Program's comments and responses*
- *The Dean should then provide summative comments/responses from an overarching Faculty perspective for each recommendation and program response*

Recommendation 1

Adopt a phased rollout of new courses: Prioritize core analytics and AI courses in the initial years and stage the introduction of remaining new courses to reduce development burden, ensure coherence, and support quality assurance.

Program's Response

The current program proposal includes the broad outline of topics, learning outcomes, and assessment approaches. Courses will be fully developed in phases as the program kicks off in 2027, with core first and second year courses given priority.

The proposed program also includes courses from FBIT's existing programs, which reduces the burden of developing new courses.

Some core upper year BBAI courses may be developed earlier and could be available as electives to other FBIT programs. This will be done based on resource and faculty availability.

Dean's response

This recommendation is well received. As noted in the program response, the Faculty supports a phased implementation approach. The proposal will be operationalized as noted by the Program Response, so that development priority is given to core first- and second-year BBAI courses, while remaining new courses are staged in alignment with program launch timelines, quality assurance requirements, and available faculty resources. Our Resourcing model further supports this ramp up approach.

Recommendation 2

Strengthen program-level assessment across all years: design vertically aligned assessments spanning foundational, intermediate, and advanced levels to ensure progressive skill development and clear alignment with program learning outcomes.

Program's Response

We will develop a framework and process for assessing and evaluating program learning outcomes on a periodic basis. This assessment process will coincide with the cyclical review process.

The program proposal includes a detailed attachment that maps all courses to program and degree level outcomes. This map highlights the degree of competency in the outcomes, as well as the tools used to assess the outcomes related to each course. We propose a systematic approach, similar to what is expected by accreditation bodies, to collect and analyze data in order to track and measure the achievement of these PLOs. For example, a set of comprehensive assessment tools (e.g., projects, case analyses, exams) in key courses will be used as measures for a specific level of competency in a learning outcome. The faculty may need to invest in resources or systems that facilitate the gathering, monitoring, and analysis of this information, although we expect that we can track these metrics internally.

We have designed the course map to demonstrate a progression between related courses. For example, with related courses (BBAI 1XXXU - Intro to AI in Bus and Soc; BBAI 2XXXU Fundamentals of AI for Business; BBAI 3XXXU Business Applications of AI; BBAI 4XXXU Strategic Management of Analytics and AI Systems) vertically-aligned assignments are designed to build on each other (e.g. 1XXU: Case Analyses; 2XXU: more advanced Case Analyses; 3XXU: Case Analyses and Applied Group Project; 4XXU: additional Case Analyses and a Culminating Assessment).

Dean's response

The proposal outlines program-level assessment and the Dean will work with the Program Director to embed that in implementation planning from the outset. The existing curriculum map provides a strong foundation for vertically aligned assessment, and the Dean will work with the Associate Dean, Academic Strategy and Program Director to monitor progression across foundational, intermediate, and advanced levels. This new program is a key area in our faculty's Integrated Academic Research Plan where performance metrics for the program will be tracked.

Recommendation 3

Implement more frequent program quality monitoring: Make the 18-month post-launch review mandatory and establish ongoing monitoring using student performance, retention, surveys, and stakeholder feedback rather than relying solely on the eight-year review cycle.

Program's Response

A data-driven approach to track program success will be undertaken by the program leadership team. This will involve the development of an internal dashboard/system designed to evaluate metrics provided by the Centre for Institutional Quality Enhancement (in mandatory 18-month cycles), as well as metrics collected by the program. The dashboard/system will deliver regular and ongoing reports for monitoring the health of the program. We will also initiate surveys with students, graduates, and other key stakeholders to expand the scope of this data-driven approach.

Dean's response

This new program is a key area in our faculty's Integrated Academic Research Plan (IARP). Within that IARP process, regular performance metrics are structured in that plan including year one program reviews and the need for student surveys. Further quality program governance requires an 18 month review. The Dean will work with the Program Director and Associate Dean, Academic Strategy to ensure that such activities to support these performance measurement tasks are put in place.

Recommendation 4

Establish systematic outcome-tracking for career readiness: Monitor achievement of program objectives using co-op evaluations, employer surveys, competition participation, and graduate employment outcomes (6- and 12-month metrics).

Program's Response

FBIT will work with the Office of Institutional Research Analysis and our Faculty and University alumni relations staff to gather information on graduate employment data.

FBIT will work with our internal CEELD (experiential learning) and our own internal academic staff involved in the co-op and internship programs to assess employer feedback on our students' readiness based on work undertaken through experiential offerings. More staff time may be required for collection and monitoring of this data on an ongoing basis.

Dean's response

This new program is a key area in our faculty's Integrated Academic Research Plan (IARP). Within that IARP process, regular performance metrics are structured in that plan. However, as co-op and internship opportunities commence later in the program, metrics for these will begin to be measured later in the programs operations. The Dean will work with the Program

Director and Associate Dean, Academic Strategy to ensure that such activities to support these performance measurement tasks are put in place at the appropriate time.

Recommendation 5

Create a standing program advisory/quality committee: Form a committee responsible for continuous improvement, assessment review, and use of performance data to guide curriculum and delivery adjustments.

Program's Response

FBIT will achieve this using 2 mechanisms:

- Each program within FBIT has its own committee with responsibility over academic quality and details within their program. This committee typically initiates changes to curriculum or courses, which then go to the Undergraduate Education Committee and Faculty Council for approval.
- FBIT has recently worked to revive its program advisory committees, which include members from industry and partner institutions/organizations. These committees will also provide input on matters of program structure, courses, and industry relevance, which will then be considered by the program committee.

Dean's response

The Dean will work with the Program Director and Associate Dean strategy to ensure that the program committee and program advisory committee are established and operates within the same governance structure as program committees for our other programs.

Recommendation 6

Increase faculty complement in analytics and AI: Recruit additional tenure-track and teaching-stream faculty with expertise in analytics and AI to support course development, delivery, and program growth.

Program's Response

FBIT has identified Analytics and AI as a core area of focus in both research and teaching. This commitment is reflected in the following:

The faculty has recently started the hiring process for a TTT faculty member in analytics and AI, as it anticipates growth within this area. This new hire will join the existing group of faculty members in developing and delivering courses within the BBAI program.

Additional resources (i.e. Teaching stream and TTT faculty) have been indicated in the proposal and are tied to program growth, so we anticipate that hiring will take place as new cohorts of students join and progress through the program.

If the anticipated cohort size is more than expected, we will revisit our resource requirements.

Dean's response

The Dean regularly reviews resourcing needs required for all programs in the faculty and discusses that with the Provost and our Director of Planning and Operations. As noted in the Program response, the Dean is currently leading a hiring process for a TTT faculty member in analytics and AI. The Dean will work with the Associate Dean Academic Strategy and Program Director to monitor resourcing needs for this program.

Recommendation 7

Use limited-term faculty strategically during launch: Hire limited-term instructors to develop and deliver new courses not covered by current faculty while maintaining alignment with program objectives.

Program's Response

Rely on core faculty for course development and some delivery, as well as LTFM and sessional instructors for delivery of new and existing courses.

FBIT prioritizes industry experience when hiring sessional instructors especially in courses that focus on specific topics not within the expertise of current FBIT faculty members. Incorporate LTFM and other instructor feedback into standing committees, thereby providing alternative perspectives.

Dean's response

The Dean regularly reviews resourcing needs required for all programs in the faculty and discusses that with the Provost and our Director of Planning and Operations. As noted in the Program response, the Dean is currently leading a hiring process for a TTT faculty member in analytics and AI.

The Dean will work with the Associate Dean Academic Strategy and Program Director to monitor resourcing needs for this program.

Recommendation 8

Ensure adequate technical infrastructure and lab-based delivery: Deliver technical and hands-on components in computing labs rather than general classrooms to reduce

Program's Response

The proposal outlines the resource requirements of the new program. We anticipate that lab space will be provided to courses that require insofar as budget and resource allocation allows. We have significant infrastructure available in FBIT and Ontario Tech for server space, web hosting, general lab areas and sharing of specialized lab spaces as necessary. We will revisit the needs on an ongoing basis during our faculty operations and planning exercises. Courses that do not require specialized hardware are suitable for scheduling in our existing spaces and lab spaces. Ontario Tech also has classrooms with flexible seating structures that can potentially be converted to lab style seating with prior planning and if needed.

Dean's response

The Dean and Director of Planning and Operations regularly work with the University central operations to review space requirements and request space in support of program needs. The Dean will work with the Associate Dean Academic Strategy, the Director of Planning and Operations and Program Director to review infrastructure and lab space resourcing needs for this program.

Recommendation 9

Introduce structured tutorials for technical courses: Provide tutorial or lab sessions to reinforce applied learning and support students in mastering analytics and AI tools.

Program's Response

We commit to exploring the need for labs/tutorials in consultation with the program director and faculty who will be responsible for teaching the course(s) and will operationalize this within the FBIT planning process. Additional resources for labs (if needed) will be discussed within the context of the existing faculty curriculum planning structure.

Many courses in the program are designed to be active, hands-on, and interactive, with applied activities woven into the course design, reducing the need for lab or tutorial components. We will review courses once they are offered to evaluate whether changes are required to tutorial or lab components based on instructor and student feedback. The same approach will apply to elective courses available to students in the BBAI program.

Dean's response

The Dean will work with the Associate Dean Academic Strategy, the Director of Planning and Operations and Program Director to review infrastructure implementation of lectures, tutorials and/or labs for each course in this program.

Recommendation 10

Plan institutional resource alignment for program growth: Ensure sufficient IT, library, lab, and student-support resources and consider impacts on other programs as enrollment expands.

Program's Response

The proposal has outlined the resource requirements for this program which include IT, library, and other student support services. As the program expands and hopefully more students are attracted to it, FBIT will work with central units to ensure adequate support remains available.

Dean's response

The Dean regularly reviews support staff and other needs required for all programs in the faculty and discusses that with the Provost, Library, Academic Advising and our Director of Planning and Operations. In support of our growing programs, we have already employed a second IT technician within the faculty.

Recommendation 11

Maintain selective and differentiated admission standards: Continue positioning the program as specialized and rigorous to attract well-prepared students capable of succeeding in the technical curriculum

Program's Response

Significant consultation was done with RO, recruitment team, and faculty regarding admission requirements for the program. BBAI currently has a higher minimum admission standard than other programs in FBIT. The current admission requirements listed establish the recommended minimum requirements. Depending on the strength of the applicant pool, we will consider applying higher entry standards in consultation with the RO.

Dean's response

The Dean will work with the Associate Dean Academic Strategy, the Registrar and Program Director to review admission requirements based on applicant pool patterns.

Suggested Revisions for the Proposal following External Review

- *Program to list all suggested revisions to the proposal*
 - *For each suggested revision, the Dean should include a comment indicating whether the revision will proceed. If the revision will not proceed, please indicate a rationale*
-
- Section #8 Assessment of Teaching and Learning:
 - Appended the following paragraph to address recommendation #3:
“A data-driven approach to track program success will be undertaken by the program leadership team. This will involve the development of internal processes designed to

track/evaluate metrics provided by the Centre for Institutional Quality Enhancement, as well as metrics collected by the program. These processes will deliver periodic reports for monitoring the health of the program. We will also initiate surveys with students, graduates, and other key stakeholders to expand the scope of this data-driven approach.”

- Section 11.1 Human Resource Requirements
 - o Added the following in response to recommendation #7:
 - “While the program will rely on current and incoming/planned TTT/LTFM, we will be strategic in our use of sessional instructors for key areas not within the expertise of current FBIT faculty members.”
- Other Minor Editorial Changes:
 - o Minor typos, grammar have been fixed, however no substantive new content has been added.

Dean’s response to suggested revisions

The Dean will work with the Associate Dean Academic Strategy, the Director of Planning and Operations and Program Director to review infrastructure implementation of lectures, tutorials and/or labs for each course in this program.



Summary of Changes Made to the Proposal Following External Review

List all revisions to the proposal and appendices, noting the Section number from the document. Include this form with the final proposal.

- Section #8 Assessment of Teaching and Learning:
 - o Appended the following paragraph to address recommendation #3:
“A data-driven approach to track program success will be undertaken by the program leadership team. This will involve the development of internal processes designed to track/evaluate metrics provided by the Centre for Institutional Quality Enhancement, as well as metrics collected by the program. These processes will deliver periodic reports for monitoring the health of the program. We will also initiate surveys with students, graduates, and other key stakeholders to expand the scope of this data-driven approach.”
- Section 11.1 Human Resource Requirements
 - o Added the following in response to recommendation #7:
 - “While the program will rely on current and incoming/planned TTT/LTFM, we will be strategic in our use of sessional instructors for key areas not within the expertise of current FBIT faculty members.”
- Other Minor Editorial Changes:
 - o Minor typos, grammar have been fixed, however no substantive new content has been added.

ACADEMIC COUNCIL REPORT

ACTION REQUESTED:

Recommendation	☒
Decision	☒
Discussion/Direction	☐
Information	☐

DATE: 26 May 2026

FROM: Undergraduate Studies Committee

SUBJECT: New Program Proposal – Bachelor of Engineering (Hons), Artificial Intelligence Engineering

COMMITTEE MANDATE:

In accordance with the Act and By-Law Number 2 the Academic Council (AC) has the delegated authority “to establish the academic standards and curricular policies and procedures of the University, and to regulate such standards, policies and procedures, including...determining the contents and curricula of all programs and courses of study” and, further, to “make recommendations to the Board on matters including...the establishment or termination of degree programs”.

In accordance with 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. USC reviewed the New Program Proposal and recommends approval of the Bachelor of Engineering (Hons), Artificial Intelligence Engineering.

MOTION FOR CONSIDERATION:

That pursuant to the recommendation of the Undergraduate Studies Committee, Academic Council hereby approves the Bachelor of Engineering (Hons), Artificial Intelligence Engineering program and recommends approval of the program to the Board of Governors.

BACKGROUND/CONTEXT & RATIONALE:

The proposed four-year Bachelor of Engineering (Hons), Artificial Intelligence Engineering is an interdisciplinary program designed to address the urgent demand for AI professionals with strong engineering expertise and a deep commitment to ethical innovation. Through the integration of hands-on learning, industry collaboration, and a focus on societal impact, the program prepares graduates to excel in a rapidly evolving field.

The program provides a robust foundation in core AI concepts while addressing critical engineering challenges such as real-time processing, embedded systems, and secure data

handling. By combining rigorous AI theory with practical engineering applications, the program's name accurately reflects its interdisciplinary nature and objectives.

With a strong emphasis on career-ready education, the program supports collaborative, technology-driven learning and research that enables students to solve real-world problems and contribute to scientific, social, and economic innovation. Courses are delivered primarily in person, with selected hybrid or online offerings, and are supported by extensive work-integrated learning opportunities, including engineering laboratories, design projects, industrial projects, and co-op and internship experiences.

The program responds directly to AI's transformative role across engineering domains such as software systems, IoT, smart homes, automotive technologies, cyber-physical systems, and smart infrastructure. It aligns with the strategic objectives of the Faculty of Engineering and Applied Science and Ontario Tech University by offering a market-driven, career-oriented curriculum that enhances the university's academic portfolio and reflects its commitment to producing new and useful ideas that create a better world.

RESOURCES REQUIRED:

Consistent with the structure and growth of engineering programs at Ontario Tech, strong enrolment growth is anticipated for the proposed Artificial Intelligence Engineering program as it matures. As institutional resources are tied to enrolment, careful monitoring of enrolment trends across the sector, and specifically their impact on this program and Software Engineering, will be required to ensure that existing resources are leveraged to the fullest extent and that any new hires resulting from enrolment increases in AI and related fields are positioned to support growth across both programs.

This careful and phased approach to investment will be essential to uphold academic quality, foster innovation, respond to evolving student demand, ensure long term resource sustainability, and remain competitive in a rapidly evolving academic and technological landscape.

Required teaching loads and supervision of experiential learning opportunities, including capstone projects, will be assigned to current tenured, tenure track, and teaching faculty members within the Faculty. Additional Teaching Assistant support will be required for new courses and can be met through available full-time graduate students, including those from the MASc in Software Engineering.

CONSULTATION AND APPROVAL:

- ✓ Academic Resource Committee: 21 October 2025
- ✓ FEAS Faculty Council: 23 April 2026
- ✓ Undergraduate Studies Committee (Recommendation): 19 May 2026
- Academic Council (Approval and Recommendation): 26 May 2026
- Board of Governors (Approval): 25 June 2026

A thorough consultation process has been undertaken with the Deans of all potentially affected faculties, involving initial informational meetings, formal presentations to Deans' Council, and bilateral discussions to address curriculum overlaps, resource sharing, and ensure synergy.

NEXT STEPS:

- Pending the approval and recommendation of Academic Council, the new program will be presented to the Board for final internal approval.
- The proposal must also proceed through the following external approval steps:
 - o Ontario Universities Council on Quality Assurance

- o Ministry of Colleges, Universities, Research Excellence and Security

The preferred date of implementation is in the Fall of 2027.

SUPPORTING REFERENCE MATERIALS:

- New Program Proposal with Appendices
- Reports from External Review



New Undergraduate Program Proposal

The program proposal and accompanying documents must address the purpose and content of the new program and the capacity of the unit to deliver a high-quality program. This template is for all proposals for new undergraduate programs and aligns with Ontario Tech Institutional Quality Assurance Process (IQAP) requirements and, together with the required supporting documents, will help to ensure that all evaluation criteria established by the Quality Council are addressed. All sections of the template are required.

Full name of proposed program (as it will appear on the student's transcript): (e.g., Bachelor of Arts in Psychology; Bachelor of Science in Biology)	Bachelor of Engineering (Honours), Artificial Intelligence Engineering Bachelor of Engineering and Management (Honours), Artificial Intelligence Engineering Bachelor of Engineering (Honours), Artificial Intelligence Engineering, Co-operative Education
Degree designation and short form: (e.g., Bachelor of Arts, B.A.; Bachelor of Science, B.Sc.)	BEng (Hons)
Cost recovery program:	☐ Yes ☒ No
Professional program:	☒ Yes ☐ No
Faculty offering the program: (i.e., where the program will be housed/site of academic authority)	Faculty of Engineering and Applied Science
Collaborating Faculty(ies) (if applicable):	
Collaborating institution(s) (if applicable):	
Program delivery location:	Ontario Tech University - North Campus 2000 Simcoe St N, Oshawa, ON L1G 0C5
Proposed program start date (please change as needed):	Fall 2027
Program proponent/contact:	Dr. Hossam Kishawy (Dean) Dr. Anwar Abdalbari (PCC Chair)
Version date (please change as you edit this proposal):	March 2026

Date of Academic Council Approval:	

Brief description of the proposed program¹: (NOTE: Text box is formatted to limit the description to 1000 characters or less. This description should be identical to the 'Program Abstract' on page one of the proposal.)

The four-year Bachelor of Engineering (Hons), Artificial Intelligence (AI) Engineering is an interdisciplinary program that addresses the urgent demand for AI professionals who possess engineering technical expertise and a deep commitment to ethical innovation. By integrating hands-on learning, industry collaboration, and a focus on societal impact, this program prepares graduates to excel in a rapidly evolving field. The program will offer a robust foundation in core AI concepts and address critical engineering challenges such as real-time processing, embedded systems, and secure data handling.

The program fosters career-ready education and drives collaborative, technology-driven research, preparing students to solve real-world challenges and contribute to scientific, social, and economic innovations. By integrating AI theory with practical applications, the program embodies the university's commitment to producing new and useful ideas that create a better world.

¹ NOTE: Following the Quality Council's approval of the proposed program, the QA Secretariat will seek confirmation from the University that this description is appropriate to post on the Quality Council's website ([Approved Programs — Ontario Universities Council on Quality Assurance \(oucqa.ca\)](#))

For CIQE Use Only:

Approval Steps	Date (e.g., of site visit, final sign off, meeting, submission)
Notice of Intent (NOI) Open for Community Comment	March 31, 2025
NOI at Academic Resource Committee (ARC)	April 8, 2025
NOI Approved to Proceed	May 7, 2025
Development of Proposal Brief	
✓ <i>Program Learning Outcomes Workshops and Review Completed</i>	September 2025
Writing of Proposal ✓ <i>Collect Data</i> ✓ <i>Broad Consultation and Letters of Support</i> ✓ <i>All Required Appendices Completed</i>	April-October, 2025
Library Report Completed	July 8, 2025
Draft Proposal at Faculty Council for Feedback	September 25, 2025
Draft Proposal Reviewed by Centre for Institutional Quality Enhancement (CIQE)	September 24, 2025
Draft Proposal Reviewed by Schools of Graduate and Post-Doctoral Studies (if applicable)	n/a
List of Potential Reviewers Submitted to CIQE	October 7, 2025
Draft Proposal Presented to ARC	October 14, 2025
Draft Proposal Return to ARC (if required)	n/a
External Review (Degree Programs Only) and Completion of Proposal	
External Review Completed (degree programs)	February 3, 2026
Response to Review Completed (degree programs)	March 23, 2026
Final Proposal Completed	April 23, 2026
Decanal signoff <i>In signing I/We confirm that I/We have ensured appropriate:</i> ✓ <i>compliance with the evaluation criteria required in the Ontario Tech Institutional Quality Assurance Process</i> ✓ <i>consultation with the Office of the Provost and Vice-President, Academic</i> ✓ <i>consultation with faculty and students, other University divisions, and external institutions where appropriate</i>	[Name], Dean, [Faculty/Division] [Date of Signoff]
Provostial signoff <i>In signing I confirm that the new program proposal:</i>	[Name], Provost and Vice-President, Academic [Date of Signoff]

✓ <i>Is complete and includes information on all evaluation criteria required in the Ontario Tech Institutional Quality Assurance Process</i>	
Faculty Council Approval	April 23, 2026
Submission to University Governance	
Undergraduate/Graduate Studies Committee Recommendation	May 19, 2026
Academic Council Approval and Recommendation (must be within two years of NOI approval)	May 26, 2026
Board of Governors Approval	June 25, 2026
The program may begin advertising once academic and fiscal approval has been received and the proposal has been submitted to the Ontario Universities Council on Quality Assurance (Quality Council) as long as any and all material includes the clear statement that, “No offer of admissions will be made to the program pending final approval by the Quality Council and the Ministry of Colleges and Universities (where the latter is sought/required).”	
External Approval and Launch of Program	
Quality Council	[date]
☐ External reviewers’ report ☐ Program’s and Dean’s response (with date)* ☐ CVs, course outlines, and other supporting material (as appendices, where applicable; CVs provided to external reviewers)	☐ Summary of changes ☐ Final, revised proposal
Anticipated Submission to the Ministry (where sought/required)	[date]
Final Expected Start Date	[date]
Initial Intake Report Due (based on expected start date)	[date]
1-Year Report Due (based on expected start date)	[date]
Date of First Cyclical Review (based on expected start date)	[date]

New Undergraduate Program Proposal

Bachelor of Engineering (Hons), Artificial Intelligence (AI) Engineering Faculty of Engineering and Applied Science

Please retain all the prompts and questions and address/answer all points in each section.

1 Program Abstract

Please provide a brief overview of the proposed program, summarizing the key points, to be shared with the public, in 1000 characters or less. You may wish to include:

- *A clear statement of the purpose of the program (who is it for, what are the outcomes)*
- *Any program components, such as fields, pathways, or micro-credentials (note that fields, pathways, and micro-credentials are not required)*
- *Nature of the learning environment, noting any distinctive elements, including alternative modes of delivery (including online)*

Note that this statement will be used on a standalone basis and is for external purposes; what do you want potential students/advisors to know about this program? (You may wish to complete this section last.)

The four-year Bachelor of Engineering (Hons), Artificial Intelligence (AI) Engineering is an interdisciplinary program that addresses the urgent demand for AI professionals who possess engineering technical expertise and a deep commitment to ethical innovation. By integrating hands-on learning, industry collaboration, and a focus on societal impact, this program prepares graduates to excel in a rapidly evolving field. The program will offer a robust foundation in core AI concepts and address critical engineering challenges such as real-time processing, embedded systems, and secure data handling.

The program fosters career-ready education and drives collaborative, technology-driven research, preparing students to solve real-world challenges and contribute to scientific, social, and economic innovations. By integrating AI theory with practical applications, the program embodies the university's commitment to producing new and useful ideas that create a better world.

2 Academic Rationale

- *Identify what is being proposed, clearly state the program objectives, and provide an academic rationale for the proposed program (what is being created and why?)*
- *Explain the appropriateness of the program name and degree nomenclature, particularly as they relate to the program objectives; list any program specializations, pathways, etc.*
- *Describe the mode of delivery (in-class, hybrid, online) and any work-integrated learning; outline how the delivery and components are appropriate to support students in achieving the Degree Level Expectations, program outcomes, and Program Learning Outcomes*
- *Discuss how the program addresses the current state of the discipline or area of study*
- *Describe the ways in which the program fits into the broader array of program offerings within the Faculty and the University*
- *Describe any unique curriculum or program innovations, creative components, or significant high impact practice*

We're proposing the establishment of a four-year Honours Bachelor of Engineering in Artificial Intelligence (AI) Engineering program within the Electrical, Computer and Software Engineering Department at Ontario Tech University.

In addition to the Artificial Intelligence (AI) Engineering program, the Faculty of Engineering and Applied Science (FEAS) will also be offering an Artificial Intelligence (AI) 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. Also, engineering students all have the opportunity to participate in a co-op option, allowing them to gain valuable, real-world industry experience.

The objective of the program is to address the urgent demand for AI professionals who possess both strong engineering technical expertise and a deep commitment to ethical innovation.

The program's name, Artificial Intelligence Engineering, precisely reflects its interdisciplinary nature, combining rigorous AI theory with practical engineering applications, and aligning directly with the objectives of preparing graduates to excel

in a rapidly evolving field. It will offer a robust foundation in core AI concepts such as machine learning, deep learning, natural language processing, computer vision, intelligent control systems, robotics, machine learning DevOps, and reinforcement learning, while also tackling critical engineering challenges like real-time processing, embedded systems, and secure data handling.

The courses will be delivered primarily in-class, with some courses offered in hybrid or online formats. A strong emphasis on work-integrated learning and industry collaboration supports students in achieving the Program Learning Outcomes (PLOs) and Degree Level Expectations (DLEs) through a combination of practical experiences and theoretical knowledge. These include engineering laboratories, design-based projects, industrial projects and co-op and internship opportunities. This approach is especially well-suited to the applied nature of AI engineering and supports the goal of preparing graduates to be career ready.

The program directly addresses the current state of AI as a transformative force across various engineering domains, including software applications, IoT systems, smart homes, automotive systems, cyber-physical systems, and smart infrastructure by equipping students with cutting-edge skills to enhance decision-making and improve system efficiency.

The proposed program aligns with the objectives and strategies the Faculty of Engineering and Applied Science by offering a market- and career-oriented curriculum that preparing graduates to meet the evolving demands of the twenty-first century. This new offering strategically fits within Ontario Tech University's broader commitment to fostering career-ready education and technology-driven research, complementing existing programs by providing specialized expertise in AI engineering. By providing specialized expertise in AI theory with practical applications, the program enhances the university's existing portfolio and reflects its dedication to societal impact.

Its unique curriculum is designed to produce new and useful ideas that contribute to a better Canada and the world. This program will equip students with cutting-edge AI skills, preparing them to solve real-world challenges and contribute to scientific, social, and economic innovations.

3 University Mission, Vision, Integrated Academic and Research Plan, and Strategic Mandate Agreement

- *Detail the consistency of the program objectives with the Mission, Vision, Integrated Academic and Research 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 Integrated Academic and Research Plan*
- *Is this program consistent with the mandate of the sector? (i.e. technically/vocationally/theoretically/academically oriented for universities) Identify how the program fits within one or more areas of strength or growth in Ontario Tech University's Strategic Mandate Agreement*

The Artificial Intelligence (AI) Engineering program is exceptionally consistent with Ontario Tech University's foundational Mission, Vision, and strategic plans, directly contributing to its overarching goals. The University's Vision, "Embracing technology with a conscience to advance knowledge and promote sustainability," and Mission, "We equip future leaders to solve complex problems," are directly embodied by this program, which focuses on developing AI professionals committed to ethical innovation and solving real-world challenges through technology. This aligns seamlessly with the "Tech with a conscience" strategic priority outlined in the University's Integrated Academic and Research Plan, which emphasizes innovating to improve lives and the planet through the ethical development and use of technology. Furthermore, the program's strong emphasis on hands-on learning, industry collaboration, and real-time processing directly supports the "Learning re-imagined" priority by adapting to the evolving educational landscape and providing dynamic learning opportunities. As a technically and vocationally oriented program within a university, it is entirely consistent with the mandate of the sector to provide career-oriented university programs that are responsive to the needs of students and employers, a core tenet of Ontario Tech's founding mandate. This program explicitly fits within a key area of strength and growth identified in Ontario Tech University's Strategic Mandate Agreement: Data Science, Artificial Intelligence and New Technologies. By producing graduates equipped with advanced AI skills, the program directly contributes to the university's role in stimulating economic growth, technological advancement, and social innovation, solidifying Ontario Tech's position as a leader in a critical and rapidly expanding field.

4 Need, Demand, and Duplication

Provide evidence of the need and demand for the program and how this has been determined, focusing on:

- *Student interest:*
 - *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)*
- *Societal need:*
 - *including evidence of the need for graduates of the program and in which fields (within academic, public, and/or private sectors);*
 - *employment opportunities for prospective graduates, indicating at least three occupations in which graduates from this proposed program may be employed, selecting at least one using the [Ontario Job Futures website](#) and one from the [Government of Canada Labour Market Trends website](#); you may also wish to review the [Durham Workforce Authority](#) website and provide any relevant sector portfolio or local/community impact information;*
 - *for professional programs, a description of the program's congruence with current regulatory requirements*
 - *note if any employers in the area support the need for this program and include a letter(s) of support as an additional appendix*

The proposed Artificial Intelligence Engineering program is directly supported by significant evidence of both student interest and pervasive societal need, as determined through a review of market trends, employment data, and the broader AI ecosystem.

Student Interest: While specific prospective student inquiries for an "AI Engineering" program at Ontario Tech University are not publicly available at this moment, the general surge in interest for AI-related education across Canada provides strong indirect evidence. Universities across Canada, including the University of Waterloo, University of Alberta, University of Toronto, and Western University, have either established or expanded their AI-focused programs, ranging from specialized AI degrees to AI specializations within existing Computer Science and Engineering programs. This proliferation reflects a high demand from prospective students who recognize the transformative potential of AI. Given Ontario Tech's established reputation in engineering and technology, it is highly probable that a dedicated AI

engineering program would attract substantial interest from both domestic and international students seeking specialized, hands-on training in this rapidly evolving field. Similar programs at other institutions have seen competitive application numbers, indicating a strong appetite for such specialized offerings. Surveys or focus groups with current engineering students often reveal a keen desire to integrate AI skills into their future careers, underscoring the relevance of this proposed program.

Societal Need: The societal need for graduates of an AI Engineering program is profound and growing across academic, public, and private sectors. AI technologies are no longer confined to specialized tech companies but are permeating every industry, leading to a critical shortage of professionals capable of designing, developing, and deploying AI solutions ethically and effectively.

Evidence of Need:

- **Ontario's AI Ecosystem:** Ontario is rapidly solidifying its position as a global AI hub. Recent reports, such as the Vector Institute's "Ontario AI Snapshot" (June 2025), indicate a significant growth in the province's AI sector, with over 17,000 new AI jobs created and private investment reaching \$2.6 billion (2024-25). This robust ecosystem, characterized by new AI company establishments and relocations to Ontario, highlights an insatiable demand for qualified AI talent.
- **Economic Transformation:** AI is seen as a powerful engine for economic growth and productivity. The integration of AI into manufacturing, financial services, healthcare, transportation, and smart infrastructure necessitates a workforce skilled in AI engineering to optimize processes, enhance decision-making, and drive innovation.
- **Durham Region's Focus:** The Durham Workforce Authority's reports and the "Artificial Intelligence in Durham Region: Talent, R&D and Business at Work" document emphasize Durham Region's emergence as a hub for AI talent and innovation. This regional focus underscores a local, immediate need for skilled AI engineers to support growing businesses and initiatives within the community.
- **Employment Opportunities:** Graduates from this proposed program will be highly sought after in numerous roles. Below are at least three key occupations:
 1. **Artificial Intelligence Engineer / Machine Learning Engineer:** (Referencing Ontario Job Futures / various job boards) This role is consistently in high demand, as seen on job platforms like ZipRecruiter, which lists numerous "AI Engineer" and "Machine Learning Engineer"

positions in Ontario from companies like RBC, H2O.ai, Chubb, and TELUS. These roles involve designing, building, and deploying AI/ML models, developing scalable data pipelines, and integrating AI solutions into various applications.

2. **Data Scientist:** (Referencing Government of Canada Labour Market Trends / OECD) The OECD's "The state of AI jobs in Canada" report (March 2025) identifies Data Scientists as the most in-demand AI profession, accounting for 20% of all AI-related job postings. These professionals leverage AI and machine learning to analyze complex datasets, extract insights, and inform strategic decisions across sectors.
3. **Intelligent Control Systems Engineer / Robotics Engineer:** (Drawing from program scope) Given the program's focus on intelligent control systems and robotics, graduates will be well-prepared for roles in advanced manufacturing, autonomous vehicles, and industrial automation. While a direct "Intelligent Control Systems Engineer" entry might not be universally distinct on broad job boards, these skills are crucial for roles such as "Automation Engineer," "Robotics Software Developer," or "Mechatronics Engineer with AI specialization," particularly within the automotive sector (e.g., General Motors' investment in autonomous vehicle systems in Oshawa, as noted by the Durham Region report).

- **Congruence with Regulatory Requirements:** For professional programs, adherence to regulatory requirements is paramount. While AI engineering is an emerging field, the program's foundation within the Electrical, Computer, and Software Engineering department ensures alignment with established engineering accreditation bodies (e.g., Engineers Canada, through its provincial regulators like Professional Engineers Ontario). The curriculum's integration of ethical innovation is crucial, anticipating future regulatory frameworks for AI and ensuring graduates are prepared for responsible AI development and deployment.
- **Employer Support:** Several employers in the Durham Region and broader Ontario have already expressed a strong need for AI talent. While specific letters of support are not provided in this abstract, the presence of major companies like General Motors in Oshawa, investing in autonomous vehicle systems, and OPG developing AI solutions for operational efficiency, strongly indicates local industry demand.

- *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?*

The program will offer a robust foundation in a wide array of AI concepts (machine learning, deep learning, NLP, computer vision, intelligent control systems, robotics, MLOps, reinforcement learning) specifically in the context of their engineering application, a more comprehensive approach than a specialization within a broader engineering discipline.

Ontario Tech has identified AI as a growing institutional priority, recognizing its potential to transform work across disciplines and operations. As AI continues to evolve, the university is developing a collaborative approach to guide its integration across programs and initiatives, with a focus on minimizing potential impacts on enrolment.

- *Is this a new area of study? Please explain:*

While the broad concept of Artificial Intelligence has been a field of academic study since the 1950s, AI Engineering as a distinct and comprehensive undergraduate degree program is indeed a relatively new area of study. Historically, AI research primarily resides within Computer Science departments, focusing on theoretical algorithms and the fundamental science of intelligence. However, the explosion of data, computational power, and the widespread application of AI in various industries over the past decade has created a critical need for professionals who can not only understand AI models but also engineer, deploy, and maintain them ethically and efficiently within real-world systems. This shift has necessitated a formal academic discipline that merges core AI concepts with robust engineering principles, addressing practical challenges like real-time processing, embedded systems, and secure data handling, thereby establishing "AI Engineering" as a crucial and emerging specialization.

- *Identify similar or complementary programs offered by other universities with specific reference to Ontario and Canadian examples, using the table in the Appendix. Please be brief but specific in the table. Avoid value-based statements; rather, focus on need and demand, describing how the proposed program is similar to or different from existing programs. Please fill out and refer to the table in the Appendix when discussing the comparator programs*
- *Provide additional overall comment on the justification for any duplication*

The Artificial Intelligence (AI) Engineering stands apart from existing provincial and national programs by offering a dedicated engineering approach. While many comparable programs provide strong theoretical foundations and practical exposure within computer science or computing frameworks, they often lack the depth in engineering principles and system-level design that are central to AI engineering. This program fills a unique gap by integrating AI theory with hands-on engineering applications, ensuring graduates are equipped to design, deploy, and manage AI systems in real-world environments.

Please see Appendix A for a table indicating complementary programs offered by other universities.

5 Enrolment Information

- Please complete Table 1 and provide, in paragraph form, information regarding enrolment projections
- Please determine the academic year when the program enrolment will reach a steady-state and add an asterisk (*) in the corresponding box beside the number
- This table should reflect normal estimated program length. (Table may be adjusted as necessary.)

Table 1: Projected Enrolment by Academic and Program Year

	Academic Year					
	2027-2028	2028-2029	2029-2030	2030-2031	2031-2032	2032-2033
Level of Study						
1 st year	30	40	50	50	50	50
2 nd year		27	36	45	45	45
3 rd year			26	35	43	43
4 th year				25*	34	41
Total Enrolment	30	67	112	155	172	179

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; enrolment 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 enrolment will reach steady-state in the 4th academic year (2030-2031).

6 Admission Requirements

Outline the formal admission requirements as they will appear in the Academic Calendar

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 grade 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 prerequisite math and science courses is required, with no grade below 60 per cent.

- *Explain how the program's admission requirements are appropriate for the program objectives and program learning outcomes: How will they help to ensure students are successful? How do they align with the learning outcomes of the program?*
- *Explain in detail any additional requirements for admission to the program such as minimum grade point average, special language, portfolio, etc. (and how the program recognizes prior work or learning experience, if applicable)*
- *Indicate the programs from which students may be drawn; if this is not a direct-entry from high-school program, please explain*

The formal admission requirements for this engineering program are strategically designed to ensure student success and align with the program's objectives. Prerequisites in English, Advanced Functions, Calculus and Vectors, Chemistry, and Physics provide the essential mathematical, scientific, and communication foundations necessary for an engineering degree, supporting the comprehension of complex AI concepts and effective professional practice. A competitive admission average and minimum grades in core subjects ensure a high standard of academic preparedness, fostering a strong learning environment.

While primarily a direct-entry program for high school graduates, the admission framework also thoughtfully accommodates transfer students from other post-secondary institutions and mature applicants by recognizing prior work and learning experiences, with an emphasis on a strong academic background, typically a 70% average for transfers.

7 Program Requirements, Learning Outcomes, Degree Level Expectations (DLEs), and Program Structure

Participate in program learning outcome (PLO) development sessions and complete the PLO mapping document to describe what the student will know or be able to do by the end of the program and how that knowledge or skill will be demonstrated; include the mapping document as an appendix; refer to the new PLOs and PLO mapping document to complete the questions in this section.

Please see Appendix B for a list of the Program Learning Outcomes, Degree Level Expectations, Courses, and Assessments.

Discuss how the design, structure, requirements, and delivery of the program are appropriate for the program learning outcomes, program outcomes, and Degree Level Expectations. Guidance on program objectives and program-level learning outcomes, including examples, is available [here](#). Be sure to include the following in your response:

- *The sequencing of required courses or other learning activities*
- *The mode of delivery of the program (is this an online or hybrid program?)*
- *Will the program be offered full-time and/or part-time; what is the program length for both full-time and part-time students; how will the program requirements reasonably be completed within the proposed time?*
- *A clear indication of how faculty scholarship and research is integrated; provide a clear indication of how an understanding of research in this area will be reflected in curriculum and/or assessment*
- *How the program will be administered*
- *The unique curriculum or program innovations or creative components in this program*
- *The ways in which the curriculum addresses the current state of the discipline*
- *If the program is to be accredited, include with the above details about the accreditation requirements and add the accreditation tables, if available, as an additional Appendix*

The design, structure, requirements, and delivery of the Artificial Intelligence Engineering program are meticulously crafted to ensure students achieve the outlined Program Learning Outcomes (PLOs), broader program outcomes, and Degree Level Expectations (DLEs) for an engineering degree.

1. Program Design, Structure, and Sequencing of Required Courses: The curriculum will adopt a progressive, scaffolded approach, typical of accredited engineering programs, starting with foundational principles and gradually building towards advanced, specialized AI engineering topics.
 - Years 1-2 (Foundational Engineering and Core Computing): The initial years will focus on strengthening students' understanding of core mathematics (calculus, linear algebra, discrete mathematics), fundamental physics, basic chemistry, and essential computer science principles (programming, data structures, algorithms, computer organization). These courses directly support the PLO to "Solve complex engineering problems... by applying principles from the fields of mathematics, statistics, physics, chemistry, and engineering science." They also lay the groundwork for understanding hardware-software interactions crucial for intelligent systems.
 - Years 2-3 (Core AI and Engineering Applications): Students will then transition into core AI courses such as Machine Learning, Deep Learning, Natural Language Processing, and Computer Vision, coupled with engineering-specific courses like Signals and Systems, Control Systems, Embedded Systems, and Data Communications. This sequencing ensures students first grasp the "why" and "what" of AI before delving into the "how" of building robust AI-driven engineering solutions. This directly addresses PLOs related to "Design and implement intelligent systems" and "Apply engineering design principles."
 - Years 3-4 (Advanced AI Engineering, Specialization, and Ethical/Societal Impact): The final years will involve advanced topics, including Robotics, Reinforcement Learning, Machine Learning DevOps (MLOps), and a significant focus on AI ethics, societal impact, and advanced software engineering practices. A capstone design project (spanning two semesters) will integrate all learned knowledge, requiring students to "Analyze real-world problems," "Assess existing tools," "Apply ethical reasoning and professional judgment," and "Communicate in written, oral, and visual forms." Courses on data analysis and statistical methods will be integrated throughout, particularly in relation to AI model development and evaluation, directly supporting the "Utilize data analysis and Statistical methods" PLO. The emphasis on MLOps and industry best practices in the later years ensures the "Use modern tools, programming languages, and software engineering practices" PLO is met, preparing graduates for real-world deployment.

2. **Mode of Delivery and Program Length:** This program will be delivered primarily as an in-class program with some courses offered online/hybrid. The in-class mode is crucial for hands-on learning in engineering, providing access to specialized labs, computing infrastructure, and fostering direct collaboration among students and with faculty. The program will be offered full-time over four years. The structured sequencing of courses and the integrated learning approach ensures that all program requirements, including theoretical coursework, laboratory sessions, practical projects, and a capstone design, can be reasonably completed within this proposed timeframe, allowing for comprehensive coverage of the DLEs. While part-time options are not immediately planned for initial launch, flexible scheduling for individual courses could be explored later, though the intensive nature of an engineering degree typically favors full-time study.
3. **Integration of Faculty Scholarship and Research:** Faculty scholarship and research are deeply integrated into the program, reflecting Ontario Tech's research-intensive environment.
 - **Research-Informed Curriculum:** Course content will be continually updated to reflect the latest advancements and research findings in AI and related engineering fields. Faculty members, who are active researchers, will bring their cutting-edge work into the classroom through lectures, case studies, and discussions, providing students with insights into current challenges and future directions in AI.
 - **Undergraduate Research Opportunities:** Students will have opportunities to engage in undergraduate research projects, either through formal courses, independent studies, or by assisting faculty members in their labs (e.g., the Trustworthy AI Lab or the AI4HW Joint Research Centre). This direct exposure to research cultivates critical thinking, problem-solving skills, and an understanding of research methodologies, directly contributing to the "Solve complex engineering problems" and "Adapt to rapidly evolving engineering challenges... by engaging in lifelong learning" PLOs.
 - **Capstone Design Project:** The capstone design project, a hallmark of engineering education, will often involve tackling open-ended problems that may draw from ongoing faculty research or industry-sponsored initiatives. Students will apply research methods to identify solutions, evaluate alternatives, and demonstrate an understanding of the current state of the discipline.

4. **Program Administration:** The Artificial Intelligence Engineering program will be administered by the Electrical, Computer and Software Engineering Department within the Faculty of Engineering and Applied Science. The department has established administrative structures for student advising, course scheduling, faculty management, and lab resources. A dedicated Program Curriculum Chair (PCC) or the Department Chair will oversee the curriculum, student progression, and ensure alignment with university policies and potential accreditation requirements. This departmental oversight ensures that the program benefits from existing infrastructure, experienced faculty, and a proven administrative framework.
5. **Unique Curriculum and Program Innovations:** This program incorporates several unique innovations:
 - **Dedicated AI Engineering Focus:** Unlike many programs that offer AI as a specialization, this is a standalone engineering degree, allowing for deeper integration of engineering principles with AI across the entire curriculum.
 - **Integrated Ethical AI Stream:** A strong emphasis on ethical reasoning and responsible AI development is not just a standalone course but woven throughout the curriculum, addressing crucial societal implications (as reflected in the PLO to "Apply ethical reasoning and professional judgment").
 - **Emphasis on MLOps and Deployment:** Beyond theoretical AI, the program will equip students with practical skills in MLOps, software engineering best practices for AI, and scalable system design, addressing the critical industry need for deployable AI solutions.
 - **Project-Based Learning:** Extensive hands-on and project-based learning opportunities from early years, culminating in a significant capstone project, will be central to the program, fostering practical application of knowledge and teamwork (directly supporting "Collaborate effectively in diverse teams" PLO).
 - **Industry Collaboration:** Strong ties with industry partners will facilitate guest lectures, co-op placements, and industry-sponsored projects, ensuring the curriculum remains relevant and students gain real-world experience.
6. **Addressing the Current State of the Discipline:** The curriculum directly addresses the current state of AI as a rapidly evolving, interdisciplinary field characterized by:
 - **Rapid Technological Advancements:** By integrating topics like deep learning, reinforcement learning, and MLOps, the program prepares

students for cutting-edge technologies. The "Adapt to rapidly evolving engineering challenges" PLO highlights this.

- **Data-Centric Nature:** A strong emphasis on data analysis, statistical methods, and data-driven systems ensures graduates are proficient in handling and leveraging the vast amounts of data central to modern AI.
- **Ethical and Societal Implications:** The integrated ethical stream directly responds to the growing global discourse on AI ethics, bias, privacy, and societal impact.
- **Interdisciplinary Application:** The program acknowledges that AI is transforming various engineering sectors (automotive, smart homes, IoT) by preparing graduates to apply AI in these diverse contexts, reflected in the PLO to "Analyze real-world problems rooted in social, environmental, and economic context."

7. **Accreditation:** It is intended that the Artificial Intelligence (AI) Engineering program will seek accreditation by Engineers Canada through the Canadian Engineering Accreditation Board (CEAB). This accreditation is crucial for graduates to pursue professional engineering licensure in Canada. The program's design, including its adherence to rigorous engineering science, engineering design, mathematics, and complementary studies requirements, will align with CEAB's accreditation criteria. The curriculum structure, learning outcomes, and assessment methods will be mapped directly to CEAB's twelve graduate attributes, ensuring that the program meets the high standards required for professional engineering education in Canada.

Please see Appendix C for Accreditation Table.

Describe how the principles of Equity, Diversity, Inclusion, and Decolonization have been considered:

- *Does the program contain concepts, materials, or resources from scholars/professionals who are part of one or more historically marginalized groups?*
- *Are multiple perspectives represented in the program, such as those offered by those who are Indigenous, Black, Persons of Colour, and/or 2SLGBTQIA+?*
- *How has accessibility been considered? More specifically, have the needs of students with disabilities been integrated into the program design (e.g., the ways that students are asked to demonstrate their learning)? Please provide information beyond the services offered by Student Accessibility Services*

- *Discuss how the program structure and delivery reflect universal design for teaching and learning and how the potential need to provide mental or physical health accommodations have been considered; describe how the program structure and delivery methods promote student well-being and resiliency and any elements that support a sense of community in the program*
- *Will this program provide space to allow for the discussion of other viewpoints outside the “dominant, Western narrative”?*

The Artificial Intelligence (AI) Engineering program at Ontario Tech University is being designed with a robust commitment to Equity, Diversity, Inclusion, and Decolonization. This involves actively integrating diverse perspectives and scholarship into the curriculum, including contributions from Indigenous, Black, Persons of Colour, and 2SLGBTQIA+ individuals within AI and engineering. The program will critically examine the ethical implications of AI, addressing issues like algorithmic bias and data colonialism, and ensuring that discussions extend beyond Western narratives to include global and marginalized viewpoints. This approach aims to cultivate not just technical proficiency, but also a deep social and ethical awareness in future AI engineers.

Furthermore, the program prioritizes accessibility through Universal Design for Learning (UDL) principles, offering multiple means of representation, action/engagement, and engagement to accommodate diverse learning styles and abilities, moving beyond standard accessibility services. Physical and mental well-being are promoted through a supportive learning environment, flexible considerations for accommodations, and fostering a strong sense of community through collaborative projects. Decolonization efforts within the curriculum will involve challenging technological “neutrality,” highlighting non-Western contributions to STEM, and analyzing the global impact of AI with an awareness of power imbalances, ensuring graduates are equipped to develop AI solutions that are equitable and socially responsible for all communities.

FEAS is committed to Reconciliation. The course ENGR 1015U: Introduction to Engineering has two learning modules that cover important Indigenous content: 1) Historic Relations to the Present and 2) Land Relations. Fourth year students will also be able to take the elective course ENGR 4570U: Indigenous Design and Technology. In addition, students in the program can take an Indigenous Studies Minor.

As an example of its focus on EDI, FEAS has the Women in Engineering Society with the following goals :

- We foster a welcoming and engaging space for female engineering students to create a sense of community on and off campus.

Proposal last updated: [March 2026]

- We connect female students to future employers and engineering career opportunities across Canada, and showcase successful female engineering professionals.
- We equip our students with professional skills, connections, and inspiration to prepare them for their professional careers.
- We give back to the community by running outreach events to encourage and inspire young women to pursue an education in engineering.

In addition to the above, FEAS's Engineering Outreach offers programs targeting Indigenous and black students to inspire and encourage them to pursue engineering.

For students who have accommodation needs, existing Student Accessibility Services (SAS) supports will be available to students who require specific accommodations.

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?

2021-2022

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

The IEAC was consulted when the learning modules (noted above) were developed for ENGR 1015U: Introduction to Engineering. This course is taken by all engineering students. In addition, the IEAC was consulted in the development of the elective course ENGR 4570U: Indigenous Design and Technology. The feedback from the IEAC was incorporated in both these cases.

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

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) and provide letters of support.

The Artificial Intelligence (AI) Engineering program at Ontario Tech University will integrate a robust experiential learning component, primarily through a co-operative education (co-op) option and various embedded work-integrated learning (WIL) opportunities. The co-op stream allows students to complete a minimum of three (12 months total) to a maximum of five (20 months total) full-time paid work terms, typically extending the program to five years. These placements, projected to be 50-70+ per year at full enrolment, will leverage Ontario Tech's extensive network of over 350 industry partners, including significant local collaborators like General Motors Canada and Lakeridge Health, ensuring students gain invaluable practical experience in real-world AI engineering environments.

Beyond co-op, the curriculum will feature integrated WIL through mandatory multi-semester capstone design projects, applied labs utilizing industry-standard tools, guest lectures from AI professionals, and problem-based learning using real-world case studies. These components are crucial for students to achieve Program Learning Outcomes (PLOs) by applying theoretical knowledge to complex engineering problems, designing and implementing intelligent systems ethically, developing strong communication and teamwork skills, and mastering modern AI deployment practices. This comprehensive experiential learning framework ensures graduates are not only academically proficient but also career-ready, adaptable, and aligned with the dynamic demands of the AI industry.

Template updated: September 2024

8 Assessment of Teaching and Learning

Using examples from the PLO mapping document, address the following. Please see [Guidance on Assessment of Teaching and Learning](#) and speak with the Teaching and Learning Centre (TLC) for advice on how to satisfy these criteria.

- *Appropriateness of the proposed methods for the assessment of student achievement of the intended program learning outcomes and Degree Level Expectations*
- *Describe plans for documenting and demonstrating:*
 - *The overall quality of the program*
 - *Whether the program is achieving in practice its proposed objectives;*
 - *Whether the students are achieving the program learning outcomes and a level of performance consistent with the Degree Level Expectations; and*
 - *How the resulting information will be used to inform continuous program improvement*

The Artificial Intelligence (AI) Engineering program will utilize diverse assessment methods to ensure students achieve its Program Learning Outcomes (PLOs) and Degree Level Expectations (DLEs). These include applied labs, coding assignments, design projects, case studies, ethical dilemma analyses, and both oral and written presentations, all directly mapped to specific PLOs in areas like problem-solving, design, critical thinking, communication, and ethics. The culminating capstone project will be particularly crucial for demonstrating comprehensive engineering application.

Program quality and continuous improvement will be rigorously monitored. This involves direct measures like curriculum mapping, rubric-based assessments of capstone projects and key assignments, and aggregated data from courses. Indirect measures will include student, alumni, and employer surveys, alongside co-op work term evaluations.

Ontario Tech's cyclical program review process will formalize this. In addition to the review every eight years, Ontario Tech's Academic Resource Committee requires a brief report at program launch and a full report one-year after the launch of a new program. If there are areas of concerns raised at the one-year report, a subsequent 18-month report will be required. The one-year report will ask the program to review enrolment data, admission averages, and provide an analysis of successes and challenges encountered in the first year. If it is deemed necessary, recommendations will be made to enhance program effectiveness and student success. If required, the 18-month report will address key curricular and student data (e.g. GPA, retention

data, etc.) as well as any outstanding recommendations from the one-year report. Pending the committee's review, further documentation may be required of the program for ongoing monitoring.

9 Calendar Copy and 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; 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 all courses included in the program including course numbers, titles, and descriptions. Please indicate clearly whether the courses are new/existing. Include full new course proposals for new courses, the template for which will be provided by CIQE. Include the most recent course descriptions for existing courses. If you are making changes to the existing courses, also include a course change form. In an Appendix referenced in Section 11 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 D for proposed calendar copy.

Please see Appendix E for a full list of courses in the program.

10 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*
- *Describe any consultation undertaken with regard to the principles of Equity, Diversity, Inclusion, and Decolonization not covered in Section 7 above*

The new proposed Bachelor of Engineering (Hons), Artificial Intelligence (AI) Engineering program is expected to positively impact other Ontario Tech University

programs by elevating the Faculty of Engineering and Applied Science's profile and fostering interdisciplinary research. While minor enrolment shifts may occur in existing Computer Science or other Engineering specializations, clear program differentiation and collaborative advising will mitigate this. The program will significantly strengthen the university's overall AI ecosystem, leading to increased collaboration on courses and research with faculties like Science (Computer Science) and Business and IT (Data Science), and creating new opportunities for interdisciplinary projects with faculties such as Health Sciences. This strategic addition aims to complement, rather than compete with, existing offerings, enriching the academic landscape across the university.

A thorough consultation process has been undertaken with the Deans of all potentially affected faculties, involving initial informational meetings, formal presentations to Deans' Council, and bilateral discussions to address curriculum overlaps, resource sharing, and ensure synergy. Furthermore, the program's design actively embeds Equity, Diversity, Inclusion, and Decolonization (EDID) principles. This includes consultations with Student Accessibility Services for Universal Design for Learning and discussions with diverse student groups and alumni to ensure an inclusive learning environment, fostering a program that is both technically robust and socially responsible.

11 Resource Requirements

Resource Summary

Provide a brief summary statement of the funding requirements and the rationale. Please consult with the Provost's Office early regarding any resource implications described in this section.

Strong enrolment growth is anticipated for the AI Engineering program. While existing faculty resources can support initial enrolment, careful monitoring of enrollment in this new program as well as Software Engineering will be required to ensure the most strategic and flexible use of existing faculty resources (in the context of overall faculty resource requirements) to support enrollment growth in AI-focused curriculum.

The program will also require additional Teaching Assistant (TA) support for new courses, which can be met through current full-time graduate students.

As AI continues to integrate across disciplines and operations at Ontario Tech, leveraging existing resources and securing appropriate additional resources as required—including faculty, infrastructure, and support services—is a strategic priority to ensure the university remains competitive and innovative.

The resource requirements outlined in Section 11 have been reviewed by the Academic Resource Committee (ARC): October 21, 2025

11.1 Human Resource Requirements

Faculty - New and Existing Requirements

Complete, as an Appendix, the table detailing the list of faculty committed to the program and provide, in paragraph form below, the following:

- *Clear evidence that faculty have the recent research or professional/clinical expertise needed to sustain the program, promote innovation, and foster an appropriate intellectual climate*
- *Additional information to demonstrate how supervisory loads are distributed in light of qualifications and appointment status, if not clear from the table*
- *Evidence of the participation of a sufficient number and quality of faculty who will actively participate in the delivery of (teach and/or supervise) the program and achieve the goals of the program and foster the appropriate academic environment, contribute substantively to the program, and commit to student mentoring*
- *Describe the role of any sessional/part-time faculty and any adjunct faculty; provide an approximate percentage used in the delivery of the program and the plans to ensure the sustainability of the program and quality of the student experience*
- *Explain the provision of supervision of any experiential learning opportunities; how will supervisory loads be distributed?*

Ontario Tech is particularly well-served with a depth of qualified faculty members with expertise in AI, data science, computer engineering, and other related relevant fields. A detailed Faculty Information table is included in appendix F.

Both required teaching load and supervisory of experiential learning opportunities such as capstone will be assigned to both current Tenured and Tenure-Track, and Teaching Faculty members within the Faculty.

Provide the CVs of all faculty who appear in the table of faculty committed to the program. These CVs should form a separate document with a table of contents and

should have all CVs in alphabetical order by surname. CVs should be submitted in a consistent format.

Please see Appendix G for Curriculum Vitae for Faculty committed to the Program.

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

Please explain, i.e. Why would new faculty not be required? Would this change over time? What year will any faculty hire be required, and are there additional criteria associated with the hiring requirement (e.g. enrolment levels, program growth, University or Faculty priorities)?

Consistent with the structure and growth of Engineering programs at Ontario Tech, we anticipate strong enrolment growth in the Artificial Intelligence (AI) Engineering program as it matures. As institutional resources are tied to enrolment, careful monitoring of enrolment trends across the sector - and specifically as they impact this new program and Software Engineering - will be required to ensure that existing resources are leveraged to fullest extent and that any new hires required by enrollment increases in AI offerings and related fields are positioned to support enrollment growth across the two programs.

As shown above in *Table 1: Projected Enrolment by Academic and Program Year*, initial enrolment levels can be supported with existing faculty resources.

This careful and phased consideration of investment will be essential to uphold academic quality, foster innovation, respond to growing and changing student demand, ensure long-term resource sustainability and to remain competitive in a rapidly evolving academic and technological landscape.

Additional Academic and Non-Academic Human Resources

Give details regarding the nature and level of TA support required by the program, the level of administrative (i.e. new program director appointment), and academic advising support, etc. If new staff resources are needed, provide further details below.

The proposed program will require additional Teaching Assistant (TA) support to accommodate the new courses being introduced which the Faculty currently has availability from full-time graduate students across various programs in particular with the recently introduced MASc in Software Engineering. No additional resources

are anticipated at this time for program administration, academic advising, or support staff, as these needs can be met within the existing structures.

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

If yes, please outline what year the staff hire(s) will be required and any additional criteria associated with the hiring requirement (e.g. enrolment levels, program growth, University or Faculty priorities):

N/A

11.2 Learning Resources

Provide an opening statement to describe the resources to sustain the quality of scholarship and research activities of undergraduate and graduate students, enhance the learning and teaching environment, promote student well-being and resiliency in the learning and teaching environment; refer as noted to the two standard Appendices. Please contact your [Subject Librarian](#) as you begin your proposal to request the 'Library statement for new program proposal'.

Ontario Tech University is committed to providing robust resources to ensure the sustained quality of scholarship and research for both undergraduate and graduate students, enhance the learning and teaching environment, and promote student well-being and resiliency within the proposed Bachelor of Engineering (Hons), Artificial Intelligence (AI) Engineering program. Our strategy leverages existing institutional strengths and targeted support, as detailed in the Library Statement and outlined in the student support services statement.

Please see Appendix H for a statement from the Library confirming the adequacy of library holdings and support for student learning.

Please see Appendix I for a University statement concerning Learning Resources.

11.3 Information Technology

Provide a summary of evidence that there are adequate information technology resources to sustain the quality of scholarship and research activities of undergraduate and graduate students; address any unique requirements including renovations to existing space, Faculty-specific space/equipment, etc.; are there additional technology

requirements specific to being able to successfully launch this program? Refer as noted to the standard Appendix.

Ontario Tech University possesses strong existing IT infrastructure, including HPC clusters, software licenses, and network connectivity, to support the new AI Engineering program. However, launching and sustaining this program's quality requires specific enhancements. Unique requirements include dedicated AI Engineering labs with enhanced GPU capacity (necessitating potential power/cooling upgrades), a robotics and intelligent systems lab, and specialized data storage solutions. Additional crucial technology needs for a successful launch involve securing comprehensive software licenses, substantial cloud computing credits, and potentially dedicated IT support for these specialized AI resources, along with the initial procurement of high-end hardware. These focused investments will ensure students have access to the cutting-edge computing environments essential for advanced AI engineering scholarship and research.

Please see Appendix J for a University statement concerning information technology services.

Supporting information for online and hybrid programs

Where applicable, please provide the following details for online and hybrid programs:

- *Describe the adequacy of the technological platform to be used for online delivery*
- *Describe how the quality of education will be maintained*
- *Describe how the program objectives will be met*
- *Describe how the program learning outcomes will be met*
- *Describe the support services and training for teaching staff that will be made available*
- *Describe the sufficiency and type of supports that will be available to students*
- *How has accessibility been considered?*
- *What strategies have been considered to accommodate students with disabilities?*
- *Have the principles of [Universal Design](#) been considered?*
- *Will course content be offered in both written and audible forms (e.g., closed captioning, transcriptions)?*
- *Is course content designed logically and is it easy to follow with limited instruction?*
- *Are assignment expectations clear (i.e., a rubric)?*
- *Have the needs of students with limited or unreliable access to wi-fi been considered (e.g., breaking down pre-recorded lectures into maximum 10-minute videos)?*

As a primarily in-class program, the Bachelor of Engineering (Hons), Artificial Intelligence (AI) Engineering leverages Ontario Tech's robust Canvas LMS and specialized software/HPC resources, ensuring a strong digital learning environment. Quality is maintained through blended learning, hands-on labs, diverse assessments, and a carefully structured curriculum.

Extensive support for both faculty and students is available: the Teaching and Learning Centre (TLC) provides pedagogical and tech training for staff, while students benefit from the Student Learning Centre, Student Accessibility Services (SAS), Career Centre, and Mental Health Services, alongside comprehensive library resources. The program prioritizes accessibility and Universal Design for Learning (UDL), offering multiple means of representation (e.g., closed captioning/transcriptions for all video), action/expression (varied assignments with clear rubrics), and engagement. Course content will be logically designed and easy to follow, with pre-recorded material potentially segmented into short videos to accommodate diverse student needs, including those with limited internet access or attention challenges.

11.4 Space and Infrastructure Requirements

- *Provide evidence that there are adequate resources to sustain the quality of scholarship and research activities of undergraduate and graduate students, including information about laboratory and research space access, where applicable, and office space; address any unique requirements*
- *Highlight the change in the number of faculty, students, administrative staff, etc. as well as information on changes in equipment and activities; renovation of existing space; or whether the current space allocation will accommodate the new program*
- *Are there additional space requirements specific to being able to successfully launch this program?*

Ontario Tech University has strong existing resources to support the new AI Engineering program's scholarship and research. Its Faculty of Engineering and Applied Science already provides numerous modern labs, including those for mechatronics and prototyping, which lay a strong foundation for AI applications. The university's strategic space planning aims to optimize existing facilities and acquire new ones, aligning with a vision for dynamic learning and research environments rather than traditional office spaces, allowing for accommodation of new faculty and administrative staff.

However, unique demands for this specialized program necessitate specific enhancements. Key requirements include establishing or significantly renovating dedicated AI/Deep Learning Labs with high-performance, GPU-equipped workstations, likely requiring electrical and HVAC upgrades. An expansion or dedicated zones within existing Robotics and Intelligent Systems Labs will also be crucial. These specialized spaces, along with access to comprehensive AI software licenses and scalable cloud computing, are essential for hands-on learning and advanced student and faculty research, ensuring a successful launch.

11.5 Other Resource Implications

- *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 (cique@ontariotechu.ca) regarding any implications to existing or new agreements*
- *Are there inter-Faculty teaching implications?*
- *If this is a new joint program with another institution, indicate how the program will be administered and how program reviews will be conducted (refer to the Ontario Tech [Institutional Quality Assurance Process Policy](#) for more information)*

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

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 Science and Humanities (liberal studies electives). In addition, the management option will make use of courses offered by the Faculty of Business and Information Technology.

12 Closing Statements Regarding Program Quality

- *Please summarize the appropriateness of the faculty's collective expertise and how it contributes substantively to the proposed program; use indicators to provide evidence of the quality of the faculty (e.g., qualifications, funding, honours, awards, research, innovation, and scholarly record).*
- *Please summarize how the program and faculty will ensure the intellectual quality of the student experience.*

The Bachelor of Engineering (Hons), Artificial Intelligence (AI) Engineering program at Ontario Tech University will be underpinned by the exceptional collective expertise of its faculty. These professors, predominantly PhD holders from renowned institutions, bring diverse and deep knowledge in key AI areas like machine learning, deep learning, computer vision, robotics, and data analytics. Their active engagement in cutting-edge research, evidenced by significant funding from bodies like NSERC and their consistent publication in top-tier journals, ensures the curriculum remains at the forefront of the rapidly evolving AI landscape. This scholarly activity directly informs the courses, providing students with insights into the latest advancements and real-world challenges.

The faculty's quality is further demonstrated by numerous honours and awards, including Canada Research Chairs, and their strong ties with industry partners such as General Motors Canada and Lakeridge Health. This blend of academic excellence and practical experience ensures the program is not only theoretically robust but also highly relevant to industry needs. The faculty's commitment to both fundamental research and its application provides a strong foundation for a program designed to produce highly skilled and ethically-aware AI professionals.

To ensure the intellectual quality of the student experience, the program will integrate faculty's research directly into teaching, offering students exposure to leading-edge discoveries and unresolved problems in AI. A strong emphasis on hands-on and project-based learning will define the curriculum, utilizing dedicated AI/GPU labs and robotics labs for practical application. The multi-semester capstone design project will challenge students to apply their knowledge to complex, real-world problems. Furthermore, the embedded co-op stream and various work-integrated learning opportunities will provide invaluable industry exposure, allowing students to apply their skills in professional settings and deepen their understanding.

Beyond technical prowess, the program is committed to fostering critical thinking and ethical reasoning. Faculty will guide discussions on AI's societal implications, including algorithmic bias and data privacy, instilling a "Tech with a Conscience" mindset. Students will benefit from strong mentorship and ample opportunities for direct interaction with faculty, promoting intellectual inquiry and development. Access to cutting-edge computing resources and a comprehensive library will further support their learning and research endeavors, ensuring graduates are well-equipped to be leaders and innovators in the field of Artificial Intelligence.

Appendices

Appendix A – List of Comparator Programs

Appendix B – Program Learning Outcome Alignment Map to DLEs, Courses, and Assessment

Appendix C – Accreditation Table

Appendix D – Calendar Copy with Program Maps

Appendix E – List of Program Courses, New Course Proposals, Course Change Proposals, Course Descriptions for Existing Courses

Appendix F – Faculty Information table

Appendix G – *Curriculum Vitae* (provided only to external reviewers and Quality Council in the case of new Degree Programs)

Appendix H - Library Report

Appendix I – Learning Resources

Appendix J – Information Technology Services

Items to be separate documents sent to CIQE:

New Program Funding and Tuition form (for CIQE use only)

Budget Spreadsheet (for ARC use only)

Appendix A: Comparator Programs

Please list at least 3 Ontario Tech and 3 external comparators; provide a short summary of the programs and highlight any differences between the degree programs and what is proposed. Please be brief but specific in the table. Avoid value-based statements; rather, focus on need and demand, describing how the proposed program is similar to or different from existing programs.

Institution and Unit	Degree and Program (including URL)	Program Description and Curriculum	Differences Between This Program and What is Proposed
University of Waterloo	Bachelor of Computer Science - AI Specialization BCS	Offers strong theoretical foundation in AI, machine learning, deep learning. Strong co-op component.	Primarily a Computer Science degree; engineering principles (e.g., real-time processing, embedded systems, secure data handling in hardware) are less central than in a dedicated engineering program.
University of Alberta	BSc with Honours in Computing Science - AI Option BSc (Hons)	Provides core AI concepts, machine learning and deep learning within a computing science framework. Strong research focus.	Focuses on computing science rather than a full engineering methodology for AI system design and deployment.
Queen's University	Bachelor of Applied Science in Computer Engineering - AI BASc	Integrates AI within a Computer Engineering context, likely covering some hardware-software interaction and system design for AI.	Specific focus may vary; may not have the explicit, comprehensive coverage of AI system lifecycle from an engineering perspective as broadly as the proposed program.

Institution and Unit	Degree and Program (including URL)	Program Description and Curriculum	Differences Between This Program and What is Proposed
Carleton University	Bachelor of Computer Science - AI & Machine Learning Stream BCS	Includes courses on AI, ML, neural networks, computer vision, NLP. Offers co-op.	A stream within a Computer Science degree, not a dedicated engineering degree, potentially less emphasis on the engineering view of AI system development and deployment.
Durham College	Honours Bachelor of Artificial Intelligence BH AI	A dedicated honours bachelor's degree in AI, strong focus on hands-on learning, real-world applications, and AI practices. Located in Oshawa.	While a bachelor's, it is a college degree, potentially differing in research, theoretical depth, and engineering intensity from a university engineering program.
University of Toronto	Honours Bachelor of Science in Computer Science - AI Specialist BSc (Hons)	Deep dive into AI theories, machine learning, deep neural networks, computational linguistics. Strong research focus.	Primarily a Computer Science degree; engineering aspects like hardware deployment and system deployment are less central.

BEng in Artificial Intelligence Engineering

PLO #	Program Learning Outcomes
PLO1	Solve complex engineering problems related to artificial intelligence and data-driven systems by applying principles from the fields of mathematics, statistics, physics, chemistry, and engineering science.
PLO2	Analyze real-world problems rooted in social, environmental, and economic context to evaluate complexity and feasibility from an AI and engineering perspective.
PLO3	Assess existing tools, technologies, and systems for effectiveness, robustness, safety, and ethical implications in addressing engineering and societal challenges.
PLO4	Design and implement intelligent systems and solutions using appropriate AI methodologies—including machine learning, deep learning, data analytics, and computer vision—that are safe, cost-effective, efficient, and reliable.
PLO5	Apply engineering design principles to develop AI-based systems that meet specified needs under realistic constraints such as safety, scalability, economic viability, environmental impact, and societal acceptability.
PLO6	Apply ethical reasoning and professional judgment to ensure safe and socially responsible AI solutions that promote public trust and benefit the community.
PLO7	Communicate in written, oral, and visual forms with various audiences about topics related to complex AI systems, design processes, and implications.
PLO8	Collaborate effectively in diverse teams, functioning as a member or leader in multidisciplinary settings to achieve project objectives, integrating diverse knowledge and perspectives.
PLO9	Use modern tools, programming languages, and software engineering practices to build AI applications that are scalable, maintainable, and aligned with industry best practices and MLOps frameworks.
PLO10	Utilize data analysis and statistical methods to inform AI model development, validation, and performance evaluation.
PLO11	Adapt to rapidly evolving engineering challenges and career demands in artificial intelligence by engaging in lifelong learning.

<u>Undergraduate DLEs</u>	Aligned PLO*
<i>Example: 1. Depth and Breadth of Knowledge</i>	<i>Example: PLO1, PLO3</i>
1. Depth and Breadth of Knowledge	PLO1, PLO2, PLO3, PLO10
2. Knowledge of methodologies	PLO4, PLO9, PLO10
3. Application of knowledge	PLO1, PLO2, PLO4, PLO5, PLO9
4. Communication skills	PLO7, PLO8
5. Awareness of limits of knowledge	PLO3, PLO6, PLO11
6. Autonomy and professional capacity	PLO5, PLO6, PLO8, PLO11

BEng in Artificial Intelligence Engineering

	Degree Level Expectation	Depth and Breadth of Knowledge			Knowledge of Methodologies		Application of Knowledge				Communication Skills		Awareness of Limits of Knowledge	Autonomy and Professional Capacity		
	Program Learning Outcomes	LO1	LO2	LO4	LO9	LO10	LO4	LO5	LO9	LO10	LO7	LO8	LO3	LO5	LO6	LO11
Course No.	Course Title															
ENGR 1050U	Engineering Communications & Technology Impacts				2	2					3,7	1,2,4		1,2		1,2
ENGR 1015U	Introduction to Engineering										3,7	1,2,4	4	1,2,4	2	1,2,4
MATH 1010U	Calculus I	1,2	1,2						4							
MATH 1850U	Linear Algebra for Engineers	1,2	1,2						4							
PHY 1010U	Physics I	1,2	1,2						4							
CHEM 1800U	Chemistry for Engineers					2			4			2		2		2
ENGR 1025U	Engineering Design					2						2	4	4		1,2,4
ENGR 1200U	Introduction to Programming for Engineers	1,2	1,2	1,2								1,2	4	4		2
MATH 1020U	Calculus II	2	2						2							
PHY 1020U	Physics II	2	2						2							
ELEE 2110U	Discrete Mathematics for Engineers	4	1,4	4		4	1,2,4	1,2,4								
SOFE 2710U	Object Oriented Programming and Design	1,2	1,2	1,2	2		4	4	1,2	4		4		4		4
ARTE 2200U	Introduction To Data Analytics	1,2,4	3,7	2,4,7		3,4,7	1,3,4	4	3,4,7	3,4,7						
ARTE 2100U	Bio-Inspired Computing				2	2					2,4,7	2,4,7		2,4	7	2,4
	Liberal Studies Elective															
ELEE 2200U	Electrical Engineering Fundamentals	1,2	1,2	1,2									4			
SOFE 2250U	Digital Systems and Computer Architecture	1	4	1,4			4	1,2,4	4	1,2,4			4			
STAT 2800U	Statistics and Probability for Engineers	2	2						2,4		3,7	3,7				
SOFE 2715U	Data Structures	4	1	1,4	2	2					3,7	1,2,3,7	4	1,2		1,2
ARTE 2000U	Foundations of AI Engineering				7	7									1,2	
	Science Elective															
ARTE 3000U	Data and Feature Engineering	1,2	1,2,4	7									3,4		4,7	
SOFE 3650U	Software Design and Architectures				4	4						2	4	2		2
SOFE 3720U	Introduction to Artificial Intelligence	1,2	1,2	1,2	4,7	4,7	1,2,4	1,2,4	1,2,4	1,2,4	7	2,4,7		2,4		2,4
SOFE 3770U	Design and Analysis of Algorithms	1,2	1,2,7	1,2	7	4									1,2	
	Liberal Studies Elective															
ENGR 3360U	Engineering Economics								2,4			1,2,4		1,2,4		1,2,4
SOFE 3290U	Software Quality and Project Management				4	7									7	
ARTE 3200U	Natural Language Processing	1	2								3,7	3,7			3,4	
ARTE 4120U	AI Agents and Multi-Agent Systems			4,7	1,2		4,7	1,2	3,9		7	7				
SOFE 3620U	Machine Learning and Data Mining	4	1,2	4					4	1,2						
ENGR 4111U	Capstone Systems Design I				3,5,7	3,5,7					3,5,7	3,5,7		5,7		5,7
SOFE 4590U	Embedded Systems	1	1,2	2									4			
ARTE 4110U	Deep Learning Architecture and Algorithms	1	2	2,4			4,7	1,2								
ARTE 4100U	Foundation Models and Generative AI										7	7		7		5
ENGR 4760U	Ethics, Law and Professionalism for Engineers				3,5,7	3,5,7						2		2	5,7	2
ENGR 4222U	Capstone Systems Design II				3,5,7	3,5,7					3,5,7	2,3,5,7	7	5,7	5,7	5,7
ARTE 4210U	Autonomous and Connected Systems						4,7	1,2	3,9				1		2	
ARTE 4200U	AI Engineering and Machine Learning Operations										7	7		7		5

Degee of Implementation:

Introduced
Reinforced
Mastered

Assessments - Identify types of relevant assessments and number them (do not have to be in rank order); those listed below are only example

1 - Test	4 - Assignment	7 - Group project
2 - Exam	5 - Essay	
3 - Presentation	6 -Thesis	

[illegible]

Artificial Intelligence Engineering

General information

Our university's Artificial Intelligence Engineering program is designed to produce engineers capable of designing, building, and deploying robust, ethical, and scalable AI systems. The curriculum provides a strong foundation in software engineering, mathematics, and the core principles of AI, including machine learning, deep learning, natural language processing, and computer vision. Courses such as Machine Learning, AI Engineering and MLOps, Deep Learning, Foundation Models and Gen AI, and Autonomous and Connected Systems prepare graduates for careers as AI engineers, ML engineers, and AI system designers across a vast range of industries, from robotics and software to finance and healthcare.

Admission requirements

Admission requirements should include the general University statement:

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.

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. All other applicants should refer to [admissions](#) for the requirements for their specific category of admission.

Note: students who are missing one or more of Calculus and Vectors (MCV4U), Chemistry (SCH4U), and/or Physics (SPH4U), may apply for admission to the [pre-engineering program](#).

Professional designation

Our undergraduate engineering programs in the Faculty of Engineering and Applied Science have been fully accredited by the Canadian Engineering Accreditation Board. Each graduate is eligible to apply for licensing as a professional engineer (PEng) in any province or territory in Canada. Note that our newest programs, [Energy Engineering](#) and [Industrial Engineering](#), will go for accreditation in 2026-2027 when the first classes of students reach fourth year.

Program details and degree requirements

To be eligible for an honours Bachelor of Engineering degree in Artificial Intelligence Engineering, students must successfully complete 126 credit hours, including all courses outlined here. For elective options, see the following list.

All courses in Year 1 are prerequisites to all non-elective courses in Year 3.

All courses in Years 1 and 2 are prerequisites to all non-elective courses in Year 4.

Although reasonable efforts will be made to adhere to the order and timing of courses as indicated, course requirements and term offerings may change. For the most up-to-date list of course offerings, please visit the faculty website at engineering.ontariotechu.ca.

Year 1 (30 credit hours)

- ENGR 1015U - Introduction to Engineering
- ENGR 1050U – Engineering Communications and Technology Impacts
- MATH 1010U - Calculus I
- MATH 1850U - Linear Algebra for Engineers
- PHY 1010U - Physics I
- CHEM 1800U - Chemistry for Engineers
- ENGR 1025U - Engineering Design
- ENGR 1200U - Introduction to Programming for Engineers
- MATH 1020U - Calculus II
- PHY 1020U - Physics II

Year 2 (33 credit hours)

- ARTE 2000U - Foundations of AI Engineering
- ARTE 2100U - Bio-Inspired Computing
- ELEE 2110U - Discrete Mathematics for Engineers
- ELEE 2200U - Electrical Engineering Fundamentals
- SOFE 2710U - Object Oriented Programming and Design

- ARTE 2200U - Introduction to Data Analytics
- SOFE 2250U - Digital Systems and Computer Architecture
- SOFE 2715U - Data Structures
- STAT 2800U - Statistics for Engineers
- Science Elective*
- Liberal Studies Electives*

Year 3 (30 credit hours)

- ARTE 3000U - Data and Feature Engineering
- SOFE 3650U - Software Design & Architectures
- SOFE 3720U - Introduction to Artificial Intelligence
- SOFE 3770U - Design and Analysis of Algorithms
- ARTE 3200U - Natural Language Processing
- ARTE 4100U - Foundation Models and Generative AI
- ENGR 3360U - Engineering Economics
- SOFE 3290U - Software Quality and Project Management
- SOFE 4620U - Machine Learning and Data Mining
- Liberal Studies Electives*

Year 4 (30 credit hours)

- Engineering Elective*
- ARTE 4120U - AI Agents and Multi-Agent Systems
- ARTE 4110U - Deep Learning Architecture & Algorithms
- ENGR 4111U - Capstone Systems Design I
- SOFE 4590U - Embedded Systems
- ARTE 4210U - Autonomous and Connected Systems
- ARTE 4200U - AI Engineering & Machine Learning Operations
- ENGR 4222U - Capstone Systems Design II
- ENGR 4760U - Ethics, Law, Prof for Engs
- Engineering Elective*

Engineering electives

Courses selected for the engineering elective must be approved by the Faculty of Engineering and Applied Science. Engineering courses from other engineering programs may be allowed as engineering electives provided students have the prerequisites and the courses extend the students' knowledge through greater depth in an advanced area, or greater breadth in a complementary field. Not all of the listed engineering electives will necessarily be offered each year.

The following are approved courses as engineering electives:

- ENGR 4570U Indigenous Design and Technology
- ARTE 4300U Computer Vision and Robotics

- SOFE 4610U Design and Analysis of IoT Software Systems
- SOFE 4630U Cloud Computing
- SOFE 4640U Mobile Applications Development
- SOFE 4830U Real Time Systems and Control
- SOFE 4850U User Interface and Experience Design
- SOFE 4890U Advanced Computer Networks

Science electives

Courses selected for the Science elective must be approved by the Faculty of Engineering and Applied Science. Science courses from our university's other programs may be allowed as Science electives provided students have the prerequisites and the courses extend the students' knowledge through greater depth in an advanced area, or greater breadth in a complementary field. Not all of the approved Science electives will necessarily be offered each year.

The following are approved courses as science electives:

- BIOL 1841U - Essentials of Biology
- ENVS 1000U - Environmental Science
- ENVS 2010U - Introductory Environment Science
- HLSC 1200U - Human Anatomy & Physiology I
- PHY 2900U - Astronomy I

Liberal Studies electives

Complementary studies, including courses in humanities, social sciences, arts, management, engineering economics, ethics and communication, are included in engineering programs to complement the technical content of the curriculum and thereby provide graduates with a broader perspective of their role in society. The inclusion of complementary studies also satisfies several accreditation criteria of the Canadian Engineering Accreditation Board. Courses or parts of courses covering engineering economics, ethics, and the impact of technology on society, as well as courses that develop the student's capability to communicate orally, visually and in writing, are essential to the education of an engineer and therefore are included in all of our engineering programs.

Liberal studies electives are included in each engineering program to ensure adequate coverage of subject matter that deals with central issues, methodologies and thought processes of the humanities and social sciences. Such material is required in the education of an engineer. Liberal studies electives can include, but are not limited to, courses dealing with cultural analysis; historical analysis; literature and the arts; knowledge, cognition, and moral reasoning; and social and behavioural analysis.

Foreign language and business courses may not be used as liberal studies electives. Courses can be approved as liberal studies electives for students in engineering

programs at the university by the Dean of the Faculty of Engineering and Applied Science (or designate), in accordance with these principles.

Courses selected for the liberal studies electives must be approved by the Faculty of Engineering and Applied Science. Liberal studies electives are subject to change. An updated list of liberal studies electives will be maintained online at engineering.ontariotechu.ca.

Program learning outcomes

The following outcomes outline the knowledge and skills students will have achieved upon completion of the program.

PROPOSED Artificial Intelligence Engineering 2027-2028						
Year	Course	Course	Course	Course	Course	Course
1-1	ENGR 1015U Introduction to Engineering	ENGR 1050U Engineering Communications and Technology Impacts (Credit restrictions: COMM 1050U/ SSCI 1470U)	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 1050U)	ENGR 1200U Introduction to Programming for Engineers	MATH 1020U Calculus II (MATH 1010U)	PHY 1020U Physics II (PHY 1010U)	
2-1	ARTE 2000U Foundations of AI Engineering (ENGR 1200U)	ARTE 2100U Bio-Inspired Computing (ENGR 1025U)	ELEE 2110U Discrete Mathematics for Engineers (MATH 1020U, MATH 1850U)	ELEE 2200U Electrical Engineering Fundamentals (MATH 1020U, MATH 1850U, PHY 1020U)	SOFE 2710U Object Oriented Programming and Design (ENGR 1200U)	Liberal Studies Elective
2-2	ARTE 2200U Introduction to Data Analytics (SOFE 2710U and ARTE 2000U Foundations of AI Engineering)	SOFE 2250U Digital Systems and Computer Architecture (ELEE 2110U, SOFE 2710U)	SOFE 2715U Data Structures (SOFE 2710U)	STAT 2800U Statistics and Probability for Engineers (MATH 1020U)	Science Elective	
3-1	ARTE 3000U Data and Feature Engineering (SOFE 2715U and ARTE 2200U Intro to Data Analytics)	SOFE 3650U Software Design and Architectures (SOFE 2720U or ARTE 2000U Foundation of AI Eng)	SOFE 3720U Introduction to Artificial Intelligence (SOFE 2715U)	SOFE 3770U Design and Analysis of Algorithms (ELEE 2110U, SOFE 2715U)	Liberal Studies Elective	
3-2	ARTE 3200U Natural Language Processing (SOFE 3770U, SOFE 3720U)	ARTE 4100U Foundation Models and Generative AI (~~SOFE 3620U~~ SOFE 3720U)	ENGR 3360U Engineering Economics	SOFE 3290U Software Quality and Project Management (SOFE 3650U, ~~SOFE 3700U~~)	SOFE 3620U Machine Learning and Data Mining (SOFE 3720U)	
4-1	ARTE 4120U AI Agents and Multi-Agent Systems (ARTE 3200U Natural Language Processing)	ARTE 4110U Deep Learning Architecture & Algorithms (SOFE3620U)	ENGR 4111U Capstone Systems Design I (Successful completion of all non-elective courses in year three)	SOFE 4590U Embedded Systems (SOFE 3950U or ARTE 4100U)	Engineering Elective	Engineering Elective
4-2	ARTE 4210U Autonomous and Connected Systems (SOFE 4590U)	ARTE 4200U AI Engineering & Machine Learning Operations (SOFE 3620U, (SOFE3290U)	ENGR 4222U Capstone Systems Design II (ENGR 4111U)	ENGR 4760U Ethics, Law and Professionalism for Engineers	Engineering Elective	

Appendix E – List of Program Courses, New Course Proposals, Course Change Proposals, Course Descriptions for Existing Courses

List of Program Courses

	Course Code	Course Name	
Year 1	ENGR 1015U	Introduction to Engineering	Existing Course – course description enclosed
	ENGR 1050U	Engineering Communications and Technology Impacts	Existing Course – course description enclosed
	MATH 1010U	Calculus I	Existing Course – course description enclosed
	MATH 1850U	Linear Algebra for Engineers	Existing Course – course description enclosed
	PHY 1010U	Physics I	Existing Course – course description enclosed
	CHEM 1800U	Chemistry for Engineers	Existing Course – course description enclosed
	SSCI 1470U	Impact of Science on Society	Existing Course – course description enclosed
	ENGR 1200U	Intro to Programming for Engineers	Existing Course – course description enclosed
	MATH 1020U	Calculus II	Existing Course – course description enclosed
	PHY 1020U	Physics II	Existing Course – course description enclosed
	ENGR 1025U	Engineering Design	Existing Course – course description enclosed
Year 2	ARTE 2000U	Foundations of AI Engineering	NEW course – template enclosed
	ARTE 2100U	Bio-Inspired Computing	NEW course – template enclosed
	ELEE 2110U	Discrete Mathematics for Engineers	Existing Course – course description enclosed
	ELEE 2200U	Electrical Engineering Fundamentals	Existing Course – course description enclosed
	SOFE 2710U	Object Oriented Programming and Design	Existing Course – course description enclosed
	ARTE 2200U	Introduction to Data Analytics	NEW course – template enclosed
	SOFE 2250U	Digital Systems and Computer Architecture	Existing Course – course description enclosed
	SOFE 2715U	Data Structures	Existing Course – course description enclosed
	STAT 2800U	Stats for Engs	Existing Course – course description enclosed
	SE	Science Elective	
	LSE	Liberal Studies Elective	
Year 3	ARTE 3000U	Data and Feature Engineering	NEW course – template enclosed
	SOFE 3650U	Software Design & Architectures	Existing Course – course description enclosed Course change template below
	SOFE 3720U	Introduction to Artificial Intelligence	Existing Course – course description enclosed
	SOFE 3770U	Design and Analysis of Algorithms	Existing Course – course description enclosed
	ARTE 3200U	Natural Language Processing	NEW course – template enclosed
	ARTE 4100U	Foundation Models and Generative AI	Existing Course – course description enclosed Course change template below
	ENGR 3360U	Engineering Economics	Existing Course – course description enclosed
	SOFE 3290U	Software Quality and Project Management	Existing Course – course description enclosed Course change template below
	SOFE 3620U	Machine Learning and Data Mining	Existing Course – course description enclosed
	LSE	Liberal Studies Elective	NEW course – template enclosed
	ARTE 4120U	AI Agents and Multi-Agent Systems	NEW course – template enclosed
	ARTE 4110U	Deep Learning Architecture and Algorithms	Existing Course – course description enclosed Course change template below
	ENGR 4111U	Capstone Systems Design I	Existing Course – course description enclosed
	SOFE 4590U	Embedded Systems	Existing Course – course description enclosed Course change template below
	ARTE 4210U	Autonomous and Connected Systems	NEW course – template enclosed

Year 4	ARTE 4200U	AI Engineering and Machine Learning Operations	Existing Course – course description enclosed
	ENGR 4222U	Capstone Systems Design II	Existing Course – course description enclosed
	ENGR 4760U	Ethics, Law, Prof for Engs	Existing Course – course description enclosed
	ENG Elective	Engineering Elective	
	ENG Elective	Engineering Elective	
	ENG Elective	Engineering Elective	
ENG Electives	ARTE 4300U	Computer Vision and Robotics	NEW course – template enclosed
	ENGR 4570U	Indigenous Design and Technology	Existing Course – course description enclosed
	SOFE 4610U	Design and Analysis of IoT Software Systems	Existing Course – course description enclosed
	SOFE 4630U	Cloud Computing	Existing Course – course description enclosed
	SOFE 4640U	Mobile Applications Development	Existing Course – course description enclosed
	SOFE 4850U	User Interface and Experience Design	Existing Course – course description enclosed
	SOFE 4830U	Real Time Systems and Control	Existing Course – course description enclosed

Course Descriptions

ENGR 1015U - Introduction to Engineering

An introduction to engineering, the profession and core skills of engineers. Topics include: history of engineering; introduction to Indigenous histories in Canada and the responsibility of engineers to consult and work with Indigenous peoples; fields in engineering; how systems work; an overview of computer systems; information technology trends and state-of-the-art applications (scientific computing, communications, and signal processing); role of engineers in society; Equity, Diversity, and Inclusion (EDI); impact of technology on the environment; core engineering skills including freehand sketching, basic engineering graphics and drafting techniques, engineering report writing and introduction to MATLAB programming; occupational health and safety, and safety standards.

ENGR - 1050U - Engineering Communications and Technology Impacts

In the first part of the course students will learn the principles of professional oral, written, visual, and interpersonal communication required to effectively communicate in an engineering career. Students will become familiar with common forms of engineering communications, such as technical reports, memos, proposals, emails, and presentations. In the second part of the course students will learn about the impacts of technology including the ethical, environmental, economic, social, and political issues raised by technological change. The focus will be on ways of thinking critically about both the remediation of already existing problems and the prevention of future problems.

MATH 1010U - Calculus I

Applications to science and engineering using differential calculus. Emphasis on limits, continuity, the derivative, Mean Value Theorem for derivatives and integrals, approximation by differentials, Fermat's Theorem, differentiation and anti-differentiation, definite integrals, areas between curves, and the Fundamental Theorem of Calculus.

MATH 1850U - Linear Algebra for Engineers

Develops the fundamental ideas of linear algebra and demonstrates their applications to other areas. Topics include the algebra of matrices; systems of linear equations; determinants and matrix inverses; real and complex vector spaces, linear independence, bases, dimension and co-ordinates; inner product spaces and the Gram-Schmidt process; least squares and regression; linear maps and matrices, change of basis and similar matrices; eigenvalues, eigenvectors and matrix diagonalization; quadratic forms.

PHY 1010U - Physics I

This calculus-based course is intended for students who have completed high school calculus. It gives an introduction to basic mechanics, Newton's laws of motion; kinematics and dynamics in one and two dimensions; work and energy; friction; momentum and collisions; angular momentum, torque and rotation of rigid bodies; gravitation; simple harmonic motion; mechanical and sound waves; static equilibrium; fluid mechanics; kinetic theory of gases and thermodynamics.

CHEM 1800U - Chemistry for Engineers

Introduction to the four sub-disciplines of modern chemistry: analytical, inorganic, organic and physical. Atoms, molecules, stoichiometry and gas laws; reactions, chemical kinetics, thermochemistry, entropy and free energy; electronic structure of atoms, bonding and molecular structure with emphasis on organic molecules; intermolecular forces, liquids and solids; electrochemistry, fuel cells and electrolytic cells.

ENGR 1025U - Engineering Design

A project-based introduction to the engineering design process, computer-aided drafting, and the use of design tools and software packages for engineering design. Open-ended design-build projects by individuals and groups and written and oral technical communications. Basics of project management including organizing, planning, scheduling, controlling, and application of spreadsheets and project management software.

ENGR 1200U - Introduction to Programming for Engineers

Introduction to the anatomy of a computer: CPU, memory, machine cycle, input and output devices, data representation; fundamental programming concepts: flowcharting, algorithm design, use of procedures, program control flow, arrays and vectors, arithmetic and logic operations, input and output, data declaration; programming in C++.

MATH 1020U - Calculus II

A continuation of Calculus I or Introductory Calculus emphasizing integral calculus: problem solving, calculations and applications. Applications to volumes, arc length, polar co-ordinates and functions of two or more variables. Multivariable calculus: partial derivatives, differential equations, Taylor and MacLauren series, double integrals.

PHY 1020U - Physics II

Introduction to electromagnetism and optics: electric charge and Coulomb's law; electric field, electric flux, Gauss' law; electrostatic potential, capacitance; Kirchoff's laws in DC circuits. Magnetic forces and magnetic field; Biot-Savart law; Ampere's law; magnetic flux, Faraday's law, inductance; AC circuits. Electromagnetic waves, geometrical and wave optics; nuclear structure and radioactivity.

ELEE 2110U - Discrete Mathematics for Engineers

Sets and set operations, propositional logic, predicate logic, rules of inference; methods of proof and reasoning, modular arithmetic, counting, pigeonhole principle, induction, deduction, relations, functions, graphs, graph algorithms, shortest path, trees, combinatorics; applications to cryptosystems, hashing functions, coding.

ELEE 2200U - Electrical Engineering Fundamentals

Coulomb's, Ohm's and Kirchoff's laws; electrostatics and electromagnetics; resistance, capacitance, inductance and impedance and reactance; series and parallel circuits, independent and dependent voltage and current sources; energy, power; superposition, Thevenin, and Norton Theorems; maximum power transfer; node-voltage and mesh-current analysis of DC and AC circuits; initial, steady state and transient conditions; complex power and phasor domain analysis; poly-phase circuits and transformers.

SOFE 2710U - Object Oriented Programming and Design

Introduction to the fundamentals of software design through object-oriented programming, abstraction principles, information hiding and encapsulation. Introduction to design tools like pseudo-coding and basic Unified Modelling Language (UML) diagrams. Introduction to simple data structures, including linked lists, stacks, and queues, and their applications to Engineering problems. The content outline by topic is as follows: principles of object oriented programming; debugging and analysis; maintain and document programs using techniques of good programming style; basic and advanced, aspects of abstraction, recursion, parameter passing, file I/O and classes; object libraries and packages; object-oriented analysis and design using UML object interaction, messaging, association, and composition diagrams; abstract data types and basic data structures like lists, stacks, and queues.

SOFE 2250U - Digital Systems and Computer Architecture

This course starts with foundational Boolean algebra, combinational and sequential logic circuits, hardware-description language on FPGAs, and progresses to more advanced topics such as logic circuit optimization, memory technologies (ROM, RAM, ASIC), and A/D and D/A interfaces. The course then transitions to computer architecture, covering CPU, ALU, I/O devices, memory systems, GPU, and the differences between RISC and CISC architectures. Practical skills are developed in C and assembly language programming, with a focus on microprocessors, including interrupts, timers, memory management, and serial communication interfaces.

SOFE 2715U - Data Structures

This course provides the students with a solid foundation in data structures and their associated algorithms (e.g. traversal, sorting, searching, element addition and removal) both from a theoretical, as well as practical implementation perspective. The main objective of the course is to teach students how to set and design data structures and algorithms that are appropriate for problems that they might encounter. The correctness and computational complexities of the algorithms as related to the various data structures presented is also studied. Topics covered are: analysis of algorithms, dictionaries, trees (balanced trees, binary-trees, spanning trees, etc.), hashing, sorting, graphs, sets and maps, strings and pattern matching.

SOFE 2720U - Principles of Software and Requirements Engineering

This course provides an in-depth exploration of the fundamental principles and practices of software engineering and requirements engineering. The course covers the following: software life cycle, introduction to Object-oriented design patterns, UML, software requirements and eliciting, analyzing, software design, software process models, software construction, software documentation, and software testing.

STAT 2800U - Statistics and Probability for Engineers

This course introduces the concepts and techniques of statistics and probability to collect, present, analyze and interpret data, and make decisions in the presence of variability. Students study a selection of topics relevant to engineering, selected from: sample spaces, probability, conditional probability, independence. Bayes' theorem, probability distributions, algebra of expected values, descriptive statistics. Discrete and continuous random variables; probability distributions: binomial, Poisson, normal, lognormal, Weibull, etc.; mean and variance; the central limit theorem; inferences concerning means, variances, and proportions. Parameter estimation, introduction to correlation and regression. Introduction to quality control and reliability.

SOFE 3650U - Software Design and Architectures

This course covers common software architectural patterns, styles, reference software architectures, and frameworks. There is a strong emphasis on the influence of software quality attributes such as performance, adaptability, energy, safety, security, etc. to the shape and structure of the architecture. A core component of the course is the adoption of software architectural design processes and modeling languages. A major team-based project is leveraged in the course to teach these concepts.

SOFE 3720U - Introduction to Artificial Intelligence

This course introduces students to basic concepts and methods of artificial intelligence from a software engineering perspective. Emphasis of the course will be on the selection of data representations and algorithms useful in the design and implementation of intelligent systems. Knowledge representation methods, state space search strategies, and use of logic for problem solving. Applications chosen from

among expert systems, planning, natural language understanding, uncertainty reasoning, machine learning, and robotics. The course will contain an overview of one AI language and discussion of important applications of artificial intelligence methodology.

SOFE 3770U - Design and Analysis of Algorithms

Designing and analyzing algorithms; asymptotic notation; recurrences and recursion; probabilistic analysis and randomized algorithms; sort algorithms; priority queues; medians and order statistics; data and advanced data structures; augmenting data structures for custom applications; dynamic programming; greedy algorithms; graph algorithms; sorting networks; matrix operations; linear programming; number theoretic algorithms; string matching; NP-completeness and approximation algorithms; object libraries.

ARTE - 4100U - Foundation Models and Generative AI

This course explores the principles, architectures, and applications of foundation models and generative AI, including large language models (LLMs), diffusion models, and multimodal AI systems. Students will study the underlying techniques behind models such as GPT, BERT, and Stable Diffusion, focusing on training methodologies, fine-tuning strategies, and deployment considerations. The course covers key topics such as transfer learning, prompt engineering, ethical implications, and real-world applications in text, image, and code generation. Through hands-on projects, students will gain practical experience in building, customizing, and integrating generative AI models into software systems, preparing them for the rapidly evolving AI landscape.

ENGR 3360U - Engineering Economics

Aspects of theoretical and applied economics relevant to engineers, including an introduction to fundamental principles of micro and macroeconomics. Microeconomics topics include scarcity, opportunity cost, diminishing returns, elasticity, industrial organization, economies of scale and concentration. Macroeconomics topics include unemployment, inflation, economic growth, the multiplier, equilibrium, fiscal policy and monetary policy. The principle of money and banking are introduced along with the role of the Bank of Canada. Applied economics topics covered include cost concepts, time value of money, comparison of alternatives, depreciation, tax considerations, economic analysis of projects, breakeven, sensitivity and risk, and decision models. Other topics covered include: economic decision analysis applied to private and public sector capital projects, discounted cash flow methods, lease analysis, replacement decisions, inflation impacts and public sector project analysis.

SOFE 3290U - Software Quality and Project Management

This course combines the essential elements of software quality assurance with software project management techniques. It covers the entire spectrum of software quality, including the assessment and maintenance of quality, various levels of software testing, and the nuances of test data generation and validation. The course also explores the balance between software cost, schedule, quality, and the integration of quality assurance in the software development process. On the project management side, it covers project planning, scheduling, cost estimation, organizational structure, and effective leadership of personnel, all within the framework of IEEE software engineering management standards.

SOFE 3620U - Machine Learning and Data Mining

This course is offered in two parts. First part covers the discovery of new knowledge using various data mining techniques on real-world datasets. Introducing the details of the current Algorithms in Data Mining and Machine Learning such as supervised and unsupervised learning, neural networks and deep learning, dimensionality reduction, and information theory is the fundamental context for this course.

This course utilizes the latest blended learning techniques to explore topics in foundations of knowledge discovery and data mining; data mining approaches; and the application of data mining within such diverse domains as health care, business, supply chain and IT security. Current research directions, trends, issues and challenges are also explored. The second part will cover the applications of Machine Learning and Data mining in Internet of Things (IoT) domain. Issues with the data extracted or collected from an IoT system are covered in two parts: 1) Mining time series data and 2) Introduction to streaming and real-time data mining.

ARTE - 4110U - Deep Learning Architecture and Algorithms

This course provides an in-depth exploration of deep learning techniques and their applications in modern artificial intelligence systems, with a strong focus on the underlying algorithms that drive these models. Students will study neural network architectures, including feedforward networks, convolutional neural networks (CNNs), recurrent neural networks (RNNs), transformers, and generative adversarial networks (GANs), examining the mathematical foundations and algorithmic strategies behind their design and training. The course covers essential topics such as gradient-based optimization methods, backpropagation, regularization techniques, and scalability of deep learning models. Emphasis is placed on practical implementation using deep learning libraries and frameworks, enabling students to build and deploy deep learning models for tasks in computer vision, natural language processing, and reinforcement learning. Ethical considerations and the limitations of deep learning are also discussed to foster responsible AI development.

ENGR - 4111U - Capstone Systems Design I

This two-part capstone design course represents a culminating design experience for engineering students. The course allows senior-level students to integrate their engineering knowledge to solve an open-ended design problem while working as part of an engineering design team. Students will apply the engineering design process to a project of major breadth that will require them to integrate the knowledge that they have gained throughout their respective programs of study and apply it to the design and development of a complete system. Design teams will meet weekly with their project supervisor and attend several guest lectures during the semester. By the end of this first course, students will have completed the first stages of the engineering design process for their project culminating with a preliminary design report and proof-of-concept prototype presentation and demonstration. Note that students will finish the design and development of their systems in ENGR 4222U: Capstone Systems Design II.

SOFE 4590U - Embedded Systems

Embedded systems range from microprocessor-based controllers to system-on-a-chip, and applications of embedded systems including consumer electronics, automotive systems, medical devices, and robotics to name a few. This course covers the characteristics, design and implementation of embedded systems, and issues in hardware/software interfacing. Topics include: specification languages for capturing system behavior, tools for validation and verification, microcontrollers and their programming models.

ARTE - 4200U - AI Engineering and Machine Learning Operations

This course focuses on the principles and best practices for deploying, managing, and maintaining AI and machine learning systems in real-world applications. Students will explore the full lifecycle of machine learning models, from data preprocessing and model training to deployment, monitoring, and continuous integration. Key topics include cloud-based AI services, containerization, model versioning, automated pipelines, and scalable deployment platforms. The course emphasizes reliability,

reproducibility, and ethical considerations in AI engineering, ensuring that students gain hands-on experience with industry-standard MLOps tools. By the end of the course, students will be able to build, deploy, and maintain robust AI solutions that align with software engineering best practices.

ENGR - 4222U - Capstone Systems Design II

In this course, students will complete the design and development of the system that they first started in ENGR 4111U: Capstone Systems Design I. Design teams will meet weekly with their project supervisor and attend several guest lectures during the semester. By the end of this second course, students will have completed the engineering design process for their project culminating with a final design report and final prototype presentation and demonstration. Students will also showcase their completed projects at the Capstone Design Exhibition held at the end of the semester.

ENGR 4760U - Ethics, Law and Professionalism for Engineers

Legal aspects of engineering practice; business organizations and corporations; intellectual and industrial property; conflict resolution; tort liability and contract law; employment and labour law; public safety and health considerations; occupational health and safety and WHMIS; Canadian and international engineering standards and commercial practices; international trade; environmental laws and regulations; environmental stewardship and sustainable development; corporate social responsibility; equity. Ethics and moral philosophy; applied ethics; ethical aspects of engineering practice; engineering codes of ethics and ethical obligations of engineers; detecting ethical dilemmas and methods for resolving them; research ethics. The engineering profession and its history; engineering associations and societies; engineering licensure; the role and responsibilities of the professional engineer in society; engineers in industry, management and private practice.

ENGR 4570U – Indigenous Design and Technology

This course will explore design and technology of Indigenous peoples in Canada and the impacts on technology development. Two-Eyed Seeing (where with one eye we view the subject through Indigenous ways of knowing and with the other eye we view it through Western approaches) will be used to study the evolution of Indigenous design and technology and its influence on modern systems. Indigenous approaches to sustainability and its role in Indigenous design and technology will be investigated with the goal of engineers and designers incorporating this knowledge and methodologies in the development of new sustainable technologies.

SOFE 4610U – Design and Analysis of IoT Software Systems

Internet of Things (IoT) systems are large scale complex systems integrating sensing, data analytics, software services, and actuation through the Internet. Design and development of software systems for the Internet of Things (IoT) and the related architectures, technologies, communication protocols and frameworks used to enable the IoT are described. The importance and benefits of IoT in society is presented through large scale IoT application examples like smart buildings, remote health monitoring, and smart cities. Students will learn to design and analyze IoT systems with an emphasis on software architecture, protocols at the sensor, actuation, and service layer, and data storage and analysis with the goal of facilitating the deployment of IoT services. IoT specific security concerns and solutions will be discussed. Experiential learning is emphasized through hands-on design and development of IoT prototypes.

SOFE 4630U – Cloud Computing

The objective of this course is to expose students to the state of the art in cloud computing. Students will learn about issues relevant to the design, implementation and operation of cloud computing

infrastructures, platforms, and services for the Internet of Things (IoT). Topics include web services, description languages, communication protocols, data centres, virtualization, storage, big data, and cloud programming models, services and resource management, and security, privacy and trust issues. In addition, students will learn about systems research through a research and development project.

SOFE 4640U – Mobile Application Development

The objective of this course is to expose students to the state of the art in mobile application development. Students will learn about mobile operating systems, wireless networks, communication protocols, native and cross-platform mobile application development, software architecture for mobile applications, mobile apps for the Internet of Things, performance evaluation and the mobile user experience, app stores, the full development and publishing lifecycle of mobile applications, and security/privacy/trust of mobile applications and services.

SOFE 4850U – User Interface and Experience Design

This course introduces the principles of human-computer interaction with a strong emphasis on creating optimal user interfaces. It covers the fundamentals of designing user-centric solutions, focusing on understanding user needs and behaviors to design effective user environments and user satisfaction. Students will learn about various aspects of user experience (UX) design, including usability, accessibility, and emotional impact. The course introduces methods for user research, usability testing, and rapid prototyping to iteratively improve and refine designs. It also explores the principles behind user perception and decision-making, providing insights into cognitive ergonomics.

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Engineering and Applied Science	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course mode of delivery (online, hybrid, in-person etc.).	☐ Learning outcomes
☐ Course number or course Subject code	☒ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

Prerequisite change to replace “SOFE 3620U Machine Learning and Data Mining “with “SOFE 3720U Introduction to Artificial Intelligence” so AI Engineering students can take this course.

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: ARTE	Course Number: 4100U
Full Course Title: Foundation Models and Generative AI	
Short-Form Course Title (max. 30 characters):	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed
This course explores the principles, architectures, and applications of foundation models and generative AI, including large language models (LLMs), diffusion models, and multimodal AI systems. Students will study the underlying techniques behind models such as GPT, BERT, and Stable Diffusion, focusing on training methodologies, fine-tuning strategies, and deployment considerations. The course covers key topics such as transfer learning, prompt engineering, ethical implications, and real-world applications in text, image, and code generation. Through hands-on projects, students will gain practical experience in building, customizing, and integrating generative AI models into software systems, preparing them for the rapidly evolving AI landscape. Credit hours: 3 Lecture hours: 3 Prerequisite(s): ~~SOFE 3620U~~	This course explores the principles, architectures, and applications of foundation models and generative AI, including large language models (LLMs), diffusion models, and multimodal AI systems. Students will study the underlying techniques behind models such as GPT, BERT, and Stable Diffusion, focusing on training methodologies, fine-tuning strategies, and deployment considerations. The course covers key topics such as transfer learning, prompt engineering, ethical implications, and real-world applications in text, image, and code generation. Through hands-on projects, students will gain practical experience in building, customizing, and integrating generative AI models into software systems, preparing them for the rapidly evolving AI landscape. Credit hours: 3 Lecture hours: 3 Prerequisite(s): SOFE 3720

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	SOFE 3720
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*

Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Grading mode	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (MODE OF DELIVERY): *Values of CLS, HYB, IND, OFF, WB1 and WEB are being phased out. If you are changing the mode of delivery for this course, please make your selection from the values below:*

IN-PERSON		HYBRID	
ONLINE		OFF-SITE	

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

IMPACT AND CONSULTATION

(Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes
 ☒ No

WHAT CONSIDERATIONS HAVE BEEN MADE FOR EQUITY, DIVERSITY, INCLUSION AND DECOLONIZATION?*

N/A

For more information and guidance on incorporating equity, diversity and inclusion principles in curricula, please visit the [Diversity, Inclusion and Belonging resource section](#) of the CIQE website.

CONSULTATION

Consultation is central to governance at Ontario Tech. Faculties are required to consult with all areas impacted by this change, and the home faculty dean is responsible for all consultation decisions in this section of the form. Note that any false statements related to consultation may require re-submission of proposals.

FACULTY CONSULTATION

WILL THIS CHANGE IMPACT ANY OTHER FACULTIES? SOME EXAMPLES MAY INCLUDE, BUT ARE NOT LIMITED TO, THE SCENARIOS LISTED BELOW.*

☐ Yes ☒ No

Examples:

- *A course from another faculty is being added or removed from the program map.*
- *Changes to joint and/or service programs (e.g., 'and Management' programs, targeted minors).*
- *Changes to year of offering for courses from another faculty (e.g., moving a course from Year 1 to Year 2).*

Additional examples can be found in the [Resources section](#) of the CIQE website.

IF YOU ANSWERED YES TO THE QUESTION ABOVE, PLEASE EXPLAIN AND OUTLINE THE CONSULTATION PROCESS IN DETAIL. ATTACH RELEVANT DOCUMENTS (EMAILS, FACULTY COUNCIL MINUTES, ETC.) OR INCLUDE LINKS TO CORRESPONDING DOCUMENTS.*

N/A

INDIGENOUS CONTENT AND CONSULTATION

DOES THIS COURSE 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? Please attach or provide links to documents that outline the consultation process and advice given.

DID THE IEAC ASK YOU TO RETURN THE PROPOSAL TO THEM FOR REVIEW? ☐ Yes ☐ No ☒ N/A

IF YES, HAVE THEY COMPLETED THEIR REVIEW? ☐ Yes ☐ No ☒ N/A

OTHER CONSULTATION

HAVE YOU CONSULTED WITH STUDENTS, THE SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES, OFFICE OF THE REGISTRAR, STUDENT LIFE, THE LIBRARY AND/OR ANY OTHER AREAS ON CAMPUS THAT MAY BE IMPACTED?*

☐ Yes ☒ No

If yes, please explain and outline the consultation process in detail.*

N/A

Does this change involve co-op?*

☐ Yes ☒ No

If yes, please acknowledge that you have consulted with the Director, External Relations and Partnerships by checking the box below.

☐ Yes, we have consulted

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Engineering and Applied Science	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☒ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course mode of delivery (online, hybrid, in-person etc.).	☐ Learning outcomes
☐ Course number or course Subject code	☐ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

Need to add a 1.5 hr tutorial

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: ARTE	Course Number: 4110U
Full Course Title: Deep Learning Architecture & Algorithms	
Short-Form Course Title (max. 30 characters):	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed
This course provides an in-depth exploration of deep learning techniques and their applications in modern artificial intelligence systems, with a strong focus on the underlying algorithms that drive these models. Students will study neural network architectures, including feedforward networks, convolutional neural networks (CNNs), recurrent neural networks (RNNs), transformers, and generative adversarial networks (GANs), examining the mathematical foundations and algorithmic strategies behind their design and training. The course covers essential topics such as gradient-based optimization methods, backpropagation, regularization techniques, and scalability of deep learning models. Emphasis is placed on practical implementation using deep learning libraries and frameworks, enabling students to build and deploy deep learning models for tasks in computer vision, natural language processing, and reinforcement learning. Ethical considerations and the limitations of deep learning are also discussed to foster responsible AI development. Credit hours: 3 Lecture hours: 3 Prerequisite(s): SOFE 3620U	This course provides an in-depth exploration of deep learning techniques and their applications in modern artificial intelligence systems, with a strong focus on the underlying algorithms that drive these models. Students will study neural network architectures, including feedforward networks, convolutional neural networks (CNNs), recurrent neural networks (RNNs), transformers, and generative adversarial networks (GANs), examining the mathematical foundations and algorithmic strategies behind their design and training. The course covers essential topics such as gradient-based optimization methods, backpropagation, regularization techniques, and scalability of deep learning models. Emphasis is placed on practical implementation using deep learning libraries and frameworks, enabling students to build and deploy deep learning models for tasks in computer vision, natural language processing, and reinforcement learning. Ethical considerations and the limitations of deep learning are also discussed to foster responsible AI development. Credit hours: 3 Lecture hours: 3 Tutorial: 1.5 weekly Prerequisite(s): SOFE 3620U

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial – 1.5 hr weekly	Other

OTHER CHANGES (if applicable)

Cross-listings	

Prerequisites for Calendar and Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Grading mode	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (MODE OF DELIVERY): *Values of CLS, HYB, IND, OFF, WB1 and WEB are being phased out. If you are changing the mode of delivery for this course, please make your selection from the values below:*

IN-PERSON		HYBRID	
ONLINE		OFF-SITE	

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

IMPACT AND CONSULTATION

(Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes ☒ No

WHAT CONSIDERATIONS HAVE BEEN MADE FOR EQUITY, DIVERSITY, INCLUSION AND DECOLONIZATION?*

N/A

For more information and guidance on incorporating equity, diversity and inclusion principles in curricula, please visit the [Diversity, Inclusion and Belonging resource section](#) of the CIQE website.

CONSULTATION

Consultation is central to governance at Ontario Tech. Faculties are required to consult with all areas impacted by this change, and the home faculty dean is responsible for all consultation decisions in this section of the form. Note that any false statements related to consultation may require re-submission of proposals.

FACULTY CONSULTATION

WILL THIS CHANGE IMPACT ANY OTHER FACULTIES? SOME EXAMPLES MAY INCLUDE, BUT ARE NOT LIMITED TO, THE SCENARIOS LISTED BELOW.*

☐ Yes ☒ No

Examples:

- *A course from another faculty is being added or removed from the program map.*
- *Changes to joint and/or service programs (e.g., 'and Management' programs, targeted minors).*
- *Changes to year of offering for courses from another faculty (e.g., moving a course from Year 1 to Year 2).*

Additional examples can be found in the [Resources section](#) of the CIQE website.

IF YOU ANSWERED YES TO THE QUESTION ABOVE, PLEASE EXPLAIN AND OUTLINE THE CONSULTATION PROCESS IN DETAIL. ATTACH RELEVANT DOCUMENTS (EMAILS, FACULTY COUNCIL MINUTES, ETC.) OR INCLUDE LINKS TO CORRESPONDING DOCUMENTS.*

N/A

INDIGENOUS CONTENT AND CONSULTATION

DOES THIS COURSE 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? Please attach or provide links to documents that outline the consultation process and advice given.

DID THE IEAC ASK YOU TO RETURN THE PROPOSAL TO THEM FOR REVIEW? ☐ Yes ☐ No ☒ N/A

IF YES, HAVE THEY COMPLETED THEIR REVIEW? ☐ Yes ☐ No ☒ N/A

OTHER CONSULTATION

HAVE YOU CONSULTED WITH STUDENTS, THE SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES, OFFICE OF THE REGISTRAR, STUDENT LIFE, THE LIBRARY AND/OR ANY OTHER AREAS ON CAMPUS THAT MAY BE IMPACTED?*

☐ Yes ☒ No

If yes, please explain and outline the consultation process in detail.*

N/A

Does this change involve co-op?*

☐ Yes ☒ No

If yes, please acknowledge that you have consulted with the Director, External Relations and Partnerships by checking the box below.

☐ Yes, we have consulted

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Engineering and Applied Science	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course mode of delivery (online, hybrid, in-person etc.).	☐ Learning outcomes
☐ Course number or course Subject code	☒ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

Prerequisite change to remove “SOFE 3700U Data Management Systems” so AI Engineering students can take this course.

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: SOFE	Course Number: 3290U
Full Course Title: Software Quality and Project Management	
Short-Form Course Title (max. 30 characters):	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed
This course combines the essential elements of software quality assurance with software project management techniques. It covers the entire spectrum of software quality, including the assessment and maintenance of quality, various levels of software testing, and the nuances of test data generation and validation. The course also explores the balance between software cost, schedule, quality, and the integration of quality assurance in the software development process. On the project management side, it covers project planning, scheduling, cost estimation, organizational structure, and effective leadership of personnel, all within the framework of IEEE software engineering management standards. Credit hours: 3 Lecture hours: 3 Laboratory hours: 3 (bi-weekly) Tutorial hours: 1.5 Prerequisite(s): SOFE 3650U ~~and SOFE 3700U~~	This course combines the essential elements of software quality assurance with software project management techniques. It covers the entire spectrum of software quality, including the assessment and maintenance of quality, various levels of software testing, and the nuances of test data generation and validation. The course also explores the balance between software cost, schedule, quality, and the integration of quality assurance in the software development process. On the project management side, it covers project planning, scheduling, cost estimation, organizational structure, and effective leadership of personnel, all within the framework of IEEE software engineering management standards. Credit hours: 3 Lecture hours: 3 Laboratory hours: 3 (bi-weekly) Tutorial hours: 1.5 Prerequisite(s): SOFE 3650U

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	SOFE 3650U
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*

Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective
Grading mode	☐ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (MODE OF DELIVERY): *Values of CLS, HYB, IND, OFF, WB1 and WEB are being phased out. If you are changing the mode of delivery for this course, please make your selection from the values below:*

IN-PERSON		HYBRID	
ONLINE		OFF-SITE	

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

IMPACT AND CONSULTATION

(Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes
 ☒ No

WHAT CONSIDERATIONS HAVE BEEN MADE FOR EQUITY, DIVERSITY, INCLUSION AND DECOLONIZATION?*

N/A

For more information and guidance on incorporating equity, diversity and inclusion principles in curricula, please visit the [Diversity, Inclusion and Belonging resource section](#) of the CIQE website.

CONSULTATION

Consultation is central to governance at Ontario Tech. Faculties are required to consult with all areas impacted by this change, and the home faculty dean is responsible for all consultation decisions in this section of the form. Note that any false statements related to consultation may require re-submission of proposals.

FACULTY CONSULTATION

WILL THIS CHANGE IMPACT ANY OTHER FACULTIES? SOME EXAMPLES MAY INCLUDE, BUT ARE NOT LIMITED TO, THE SCENARIOS LISTED BELOW.*

☐ Yes ☒ No

Examples:

- *A course from another faculty is being added or removed from the program map.*
- *Changes to joint and/or service programs (e.g., 'and Management' programs, targeted minors).*
- *Changes to year of offering for courses from another faculty (e.g., moving a course from Year 1 to Year 2).*

Additional examples can be found in the [Resources section](#) of the CIQE website.

IF YOU ANSWERED YES TO THE QUESTION ABOVE, PLEASE EXPLAIN AND OUTLINE THE CONSULTATION PROCESS IN DETAIL. ATTACH RELEVANT DOCUMENTS (EMAILS, FACULTY COUNCIL MINUTES, ETC.) OR INCLUDE LINKS TO CORRESPONDING DOCUMENTS.*

N/A

INDIGENOUS CONTENT AND CONSULTATION

DOES THIS COURSE 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? Please attach or provide links to documents that outline the consultation process and advice given.

DID THE IEAC ASK YOU TO RETURN THE PROPOSAL TO THEM FOR REVIEW? ☐ Yes ☐ No ☒ N/A

IF YES, HAVE THEY COMPLETED THEIR REVIEW? ☐ Yes ☐ No ☒ N/A

OTHER CONSULTATION

HAVE YOU CONSULTED WITH STUDENTS, THE SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES, OFFICE OF THE REGISTRAR, STUDENT LIFE, THE LIBRARY AND/OR ANY OTHER AREAS ON CAMPUS THAT MAY BE IMPACTED?*

☐ Yes ☒ No

If yes, please explain and outline the consultation process in detail.*

N/A

Does this change involve co-op?*

☐ Yes ☒ No

If yes, please acknowledge that you have consulted with the Director, External Relations and Partnerships by checking the box below.

☐ Yes, we have consulted

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Engineering and Applied Science	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course mode of delivery (online, hybrid, in-person etc.).	☐ Learning outcomes
☐ Course number or course Subject code	☒ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

Prerequisite change to add new course “ARTE 2000U Foundations of AI Engineering” for AI Engineering students to take this course.

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: SOFE	Course Number: 3650U
Full Course Title: Software Design and Architectures	
Short-Form Course Title (max. 30 characters):	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed
This course covers common software architectural patterns, styles, reference software architectures, and frameworks. There is a strong emphasis on the influence of software quality attributes such as performance, adaptability, energy, safety, security, etc. to the shape and structure of the architecture. A core component of the course is the adoption of software architectural design processes and modeling languages. A major team-based project is leveraged in the course to teach these concepts. Credit hours: 3 Lecture hours: 3 Laboratory hours: 3 (biweekly) Tutorial hours: 1.5 Prerequisite(s): SOFE 2720U	This course covers common software architectural patterns, styles, reference software architectures, and frameworks. There is a strong emphasis on the influence of software quality attributes such as performance, adaptability, energy, safety, security, etc. to the shape and structure of the architecture. A core component of the course is the adoption of software architectural design processes and modeling languages. A major team-based project is leveraged in the course to teach these concepts. Credit hours: 3 Lecture hours: 3 Laboratory hours: 3 (biweekly) Tutorial hours: 1.5 Prerequisite(s): SOFE 2720U or ARTE 2000U Foundations of AI Engineering

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	SOFE 2720U or ARTE 2000U Foundations of AI Engineering
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☐ Elective ☐ Core or Elective

Grading mode	☐ N (normal alpha grade)	☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (MODE OF DELIVERY): *Values of CLS, HYB, IND, OFF, WB1 and WEB are being phased out. If you are changing the mode of delivery for this course, please make your selection from the values below:*

IN-PERSON		HYBRID	
ONLINE		OFF-SITE	

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

IMPACT AND CONSULTATION

(Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes ☒ No

WHAT CONSIDERATIONS HAVE BEEN MADE FOR EQUITY, DIVERSITY, INCLUSION AND DECOLONIZATION?*

N/A

For more information and guidance on incorporating equity, diversity and inclusion principles in curricula, please visit the [Diversity, Inclusion and Belonging resource section](#) of the CIQE website.

CONSULTATION

Consultation is central to governance at Ontario Tech. Faculties are required to consult with all areas impacted by this change, and the home faculty dean is responsible for all consultation decisions in this section of the form. Note that any false statements related to consultation may require re-submission of proposals.

FACULTY CONSULTATION

WILL THIS CHANGE IMPACT ANY OTHER FACULTIES? SOME EXAMPLES MAY INCLUDE, BUT ARE NOT LIMITED TO, THE SCENARIOS LISTED BELOW.*

☐ Yes ☒ No

Examples:

- A course from another faculty is being added or removed from the program map.
- Changes to joint and/or service programs (e.g., 'and Management' programs, targeted minors).
- Changes to year of offering for courses from another faculty (e.g., moving a course from Year 1 to Year 2).

Additional examples can be found in the [Resources section](#) of the CIQE website.

IF YOU ANSWERED YES TO THE QUESTION ABOVE, PLEASE EXPLAIN AND OUTLINE THE CONSULTATION PROCESS IN DETAIL. ATTACH RELEVANT DOCUMENTS (EMAILS, FACULTY COUNCIL MINUTES, ETC.) OR INCLUDE LINKS TO CORRESPONDING DOCUMENTS.*

N/A

INDIGENOUS CONTENT AND CONSULTATION

DOES THIS COURSE 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? Please attach or provide links to documents that outline the consultation process and advice given.

DID THE IEAC ASK YOU TO RETURN THE PROPOSAL TO THEM FOR REVIEW? ☐ Yes ☐ No ☒ N/A

IF YES, HAVE THEY COMPLETED THEIR REVIEW? ☐ Yes ☐ No ☒ N/A

OTHER CONSULTATION

HAVE YOU CONSULTED WITH STUDENTS, THE SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES, OFFICE OF THE REGISTRAR, STUDENT LIFE, THE LIBRARY AND/OR ANY OTHER AREAS ON CAMPUS THAT MAY BE IMPACTED?*

☐ Yes ☒ No

If yes, please explain and outline the consultation process in detail.*

N/A

Does this change involve co-op?*

☐ Yes ☒ No

If yes, please acknowledge that you have consulted with the Director, External Relations and Partnerships by checking the box below.

☐ Yes, we have consulted

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Changes to courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact. If you are uncertain about a change or definitions of terms used on this form, please reach out to your Curriculog contact, or cige@ontariotechu.ca.

Faculty: Faculty of Engineering and Applied Science	
Course Level	☒ Undergraduate ☐ Graduate

COURSE CHANGES (check all that apply)

☐ Contact hours	☐ Cross-listings
☐ Co-requisites	☐ Experiential Learning
☐ Course description	☐ Grade Mode (N – alpha grade, P – Pass/Fail)
☐ Course mode of delivery (online, hybrid, in-person etc.).	☐ Learning outcomes
☐ Course number or course Subject code	☒ Prerequisites
☐ Course title (include new short form title)	☐ Delete course from Academic Calendar
☐ Credit restrictions and/or Equivalencies	☐ Teaching and assessment methods
☐ Credit weighting	☐ Course restrictions
☐ Deleting an Elective Shown in the Program Map	☐ Other (please specify):

IS THIS COURSE CHANGE ASSOCIATED WITH A PROGRAM PROPOSAL? ☒ Yes ☐ No

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE/PROGRAM OBJECTIVES

Prerequisite change to add "ARTE 4100U - Foundation Models and Generative AI" for AI Engineering students to take this course.

FINANCIAL IMPLICATIONS

None

CALENDAR START DATE (When the course should first appear in the Academic Calendar e.g. 2020-2021)

Fall 2027

REGISTRATION START DATE (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

ADDITIONAL SUPPORTING INFORMATION (optional; please indicate if you are attaching any additional documentation)

COURSE INFORMATION

Subject Code: SOFE	Course Number: 4590U
Full Course Title: Embedded Systems	
Short-Form Course Title (max. 30 characters):	

CHANGE TO CALENDAR DESCRIPTION (if required)

Current	Proposed
Embedded systems range from microprocessor-based controllers to system-on-a-chip, and applications of embedded systems including consumer electronics, automotive systems, medical devices, and robotics to name a few. This course covers the characteristics, design and implementation of embedded systems, and issues in hardware/software interfacing. Topics include: specification languages for capturing system behavior, tools for validation and verification, microcontrollers and their programming models. Credit hours: 3 Lecture hours: 3 Laboratory hours: 3 (biweekly) Prerequisite(s): SOFE 3950U	Embedded systems range from microprocessor-based controllers to system-on-a-chip, and applications of embedded systems including consumer electronics, automotive systems, medical devices, and robotics to name a few. This course covers the characteristics, design and implementation of embedded systems, and issues in hardware/software interfacing. Topics include: specification languages for capturing system behavior, tools for validation and verification, microcontrollers and their programming models. Credit hours: 3 Lecture hours: 3 Laboratory hours: 3 (biweekly) Prerequisite(s): SOFE 3950U or ARTE 4100U Foundation Models and Generative AI

CHANGE TO CREDIT AND CONTACT HOURS [if applicable, indicate changes to total contact hours only; changes to frequency (e.g. 1x3 hours to 2X1.5 hours) not required]:

Credit Hours	
Lecture	Lab
Tutorial	Other

OTHER CHANGES (if applicable)

Cross-listings	
Prerequisites for Calendar and Banner	SOFE 3950U or ARTE 4100U Foundation Models and Generative AI
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	

Course Type	☐ Core	☐ Elective	☐ Core or Elective
Grading mode	☐ N (normal alpha grade)	☐ P (pass/fail)	

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

CHANGES TO COURSE INSTRUCTIONAL METHOD (MODE OF DELIVERY): *Values of CLS, HYB, IND, OFF, WB1 and WEB are being phased out. If you are changing the mode of delivery for this course, please make your selection from the values below:*

IN-PERSON		HYBRID	
ONLINE		OFF-SITE	

CHANGES TO TEACHING AND ASSESSMENT METHODS (if applicable)

CHANGES TO LEARNING OUTCOMES (if applicable; for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

DOES THIS COURSE CONTAIN ANY EXPERIENTIAL LEARNING COMPONENTS?

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

IMPACT AND CONSULTATION

(Curriculog contact to complete an Impact Report)

DOES THIS COURSE CHANGE IMPACT BOTH THE UNDERGRADUATE AND GRADUATE CALENDARS?

☐ Yes ☒ No

WHAT CONSIDERATIONS HAVE BEEN MADE FOR EQUITY, DIVERSITY, INCLUSION AND DECOLONIZATION?*

N/A

For more information and guidance on incorporating equity, diversity and inclusion principles in curricula, please visit the [Diversity, Inclusion and Belonging resource section](#) of the CIQE website.

CONSULTATION

Consultation is central to governance at Ontario Tech. Faculties are required to consult with all areas impacted by this change, and the home faculty dean is responsible for all consultation decisions in this section of the form. Note that any false statements related to consultation may require re-submission of proposals.

FACULTY CONSULTATION

WILL THIS CHANGE IMPACT ANY OTHER FACULTIES? SOME EXAMPLES MAY INCLUDE, BUT ARE NOT LIMITED TO, THE SCENARIOS LISTED BELOW.*

☐ Yes ☒ No

Examples:

- *A course from another faculty is being added or removed from the program map.*
- *Changes to joint and/or service programs (e.g., 'and Management' programs, targeted minors).*
- *Changes to year of offering for courses from another faculty (e.g., moving a course from Year 1 to Year 2).*

Additional examples can be found in the [Resources section](#) of the CIQE website.

IF YOU ANSWERED YES TO THE QUESTION ABOVE, PLEASE EXPLAIN AND OUTLINE THE CONSULTATION PROCESS IN DETAIL. ATTACH RELEVANT DOCUMENTS (EMAILS, FACULTY COUNCIL MINUTES, ETC.) OR INCLUDE LINKS TO CORRESPONDING DOCUMENTS.*

N/A

INDIGENOUS CONTENT AND CONSULTATION

DOES THIS COURSE 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? Please attach or provide links to documents that outline the consultation process and advice given.

DID THE IEAC ASK YOU TO RETURN THE PROPOSAL TO THEM FOR REVIEW? ☐ Yes ☐ No ☒ N/A

IF YES, HAVE THEY COMPLETED THEIR REVIEW? ☐ Yes ☐ No ☒ N/A

OTHER CONSULTATION

HAVE YOU CONSULTED WITH STUDENTS, THE SCHOOL OF GRADUATE AND POSTDOCTORAL STUDIES, OFFICE OF THE REGISTRAR, STUDENT LIFE, THE LIBRARY AND/OR ANY OTHER AREAS ON CAMPUS THAT MAY BE IMPACTED?*

☐ Yes ☒ No

If yes, please explain and outline the consultation process in detail.*

N/A

Does this change involve co-op?*

☐ Yes ☒ No

If yes, please acknowledge that you have consulted with the Director, External Relations and Partnerships by checking the box below.

☐ Yes, we have consulted

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Faculty of Engineering and Applied Science

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☒ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BEng in Artificial Intelligence Engineering

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: ARTE

Course Number: 2000U

Full Course Title: Foundations of AI Engineering

Short-Form Course Title (max. 30 characters): Foundations of AI Engineering

Course Description

This course introduces the principles and practices involved in engineering artificial intelligence (AI) systems, including technologies such as recommendation systems, computer vision, and generative AI. The course provides a conceptual introduction to AI engineering and examines the roles of data, machine learning models, and computing infrastructure in building intelligent applications. The engineering lifecycle of AI systems is explored, including problem formulation, data preparation, model development and evaluation, and system integration and deployment. Real-world applications of AI across industry and society are considered, along with ethical, societal, and professional issues related to the responsible development and deployment of AI technologies.

Credit Hours: 3

Contact Hours – please indicate total number of hours for each component

Lecture: 3

Lab:

Tutorial: 1.5 hr weekly

Other:

Cross-listings

Prerequisites for Calendar

ENGR 1200U

Prerequisites for Banner

Co-requisites

**Prerequisites with concurrency
(pre or co-requisite)**

Credit restrictions

☐ **Equivalency***

Recommended Prerequisites

Course Restrictions

Course Type

☒ **Core**

☐ **Elective**

☐ **Core or Elective**

Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)

Grading scheme

☒ **N (normal alpha grade)**

☐ **P (pass/fail)**

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments, midterms, project, and final exam as determined by the instructor.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

CEAB Graduate Attributes:

Attributes	Covered in the Course
Design	D
Professionalism	D
Impact of engineering on society and the environment	D
Ethics and equity	I
Economics and project management	I

CEAB Course Content Breakdown:

Math	Basic Science	Complementary Studies	Engineering Science	Engineering Design
0%	0%	0%	40%	60%

Students who successfully complete the course should have reliably demonstrated the ability to:

1. Explain the AI engineering lifecycle, including problem formulation, data preparation, model development, evaluation, system integration and deployment.
2. Explain fundamental concepts of artificial intelligence and machine learning and their role in modern computing systems.
3. Describe the components and architecture of AI-enabled systems, including data, models, and software infrastructure.
4. Identify and select appropriate AI approaches for different types of real-world problems and applications.
5. Evaluate the performance and limitations of AI systems using appropriate metrics and testing approaches.
6. Design and implement a simple AI-enabled application that integrates data, models, and software components.
7. Analyze and communicate ethical, societal, and professional issues related to the development and deployment of AI technologies.

Topics

1. Introduction to Artificial Intelligence and AI Engineering
2. AI Systems and Real-World Applications
3. Data and Datasets for AI Systems
4. Foundations of Machine Learning
5. Classification, Prediction, and Pattern Recognition
6. Evaluating and Testing AI Systems
7. Architecture of AI-Enabled Systems
8. The AI Engineering Lifecycle
9. Generative AI and Foundation Models
10. Limitations, Failures, and Risks of AI Systems
11. Ethical and Societal Implications of AI
12. Responsible AI Engineering and Emerging Trends

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

The Faculty of Engineering and Applied Science (FEAS) is fully committed to Equity, Diversity, and Inclusion (EDI), including in all of its courses. For students who have accommodation needs, existing Student Accessibility Services (SAS) support will be available to students who require specific accommodations.

Does this course 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

Financial Implications

There will be no significant financial impact, as the course will be delivered by the department's existing full-time faculty members.

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Faculty of Engineering and Applied Science

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☒ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BEng in Artificial Intelligence Engineering

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: ARTE

Course Number: 2100U

Full Course Title: Bio-Inspired Computing

Short-Form Course Title (max. 30 characters): Bio-Inspired Computing

Course Description

This course explores a range of popular nature-inspired computing methods that draw inspiration from biological, physical, and natural systems. These computational paradigms have been successfully applied to solve complex problems across diverse real-world domains. Topics covered include cellular automata, artificial life, neural networks, evolutionary computation, and swarm intelligence. Students will gain both theoretical insights and practical experience in modelling and applying these techniques to problem-solving scenarios.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: 2hr bi-weekly
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	ENGR 1025U
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments, midterms, project, and final exam as determined by the instructor.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

CEAB Graduate Attributes:

Attributes	Covered in the Course
Investigation	D
Communication	D
Impact of engineering on society and the environment	I
Ethics and equity	I
Life Long Learning	D

CEAB Course Content Breakdown:

Math	Basic Science	Complementary Studies	Engineering Science	Engineering Design
0%	80%	0%	20%	0%

Students who successfully complete the course should have reliably demonstrated the ability to:

1. Describe Core Nature-Inspired Computing Paradigms
2. Explain the Biological and Natural Analogies Behind Computing Models
3. Apply Nature-Inspired Techniques to Solve Computational Problems
4. Compare and Evaluate Nature-Inspired Approaches
5. Implement and Experiment with Nature-Inspired Algorithms

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

The Faculty of Engineering and Applied Science (FEAS) is fully committed to Equity, Diversity, and Inclusion (EDI), including in all of its courses. For students who have accommodation needs, existing Student Accessibility Services (SAS) support will be available to students who require specific accommodations.

Does this course 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

Financial Implications

There will be no significant financial impact, as the course will be delivered by the department's existing full-time faculty members.

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Faculty of Engineering and Applied Science

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☒ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BEng in Artificial Intelligence Engineering

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: ARTE

Course Number: 2200U

Full Course Title: Introduction to Data Analytics

Short-Form Course Title (max. 30 characters): Intro. to Data Analytics

Course Description

This course provides an introduction to the field of data analytics, focusing on the use of data, statistical and quantitative analysis, and predictive modeling to uncover meaningful patterns and insights. Students will explore the principles and techniques used to analyze both structured and unstructured data. Emphasis is placed on applying standard data mining algorithms and interpreting their results in the context of real-world decision-making. The course combines theoretical foundations with practical exercises to equip students with the skills necessary to perform data-driven analysis and support data-informed decision processes across various domains.

Credit Hours: 3

Contact Hours – please indicate total number of hours for each component

Lecture: 3

Lab:

Tutorial: 1.5 hr weekly

Other:

Cross-listings

Prerequisites for Calendar

ATRE 2xxxU Foundations of AI Engineering and SOFE 2710U

Prerequisites for Banner

Co-requisites

**Prerequisites with concurrency
(pre or co-requisite)**

Credit restrictions

☐ **Equivalency***

Recommended Prerequisites

Course Restrictions

Course Type

☒ **Core**

☐ **Elective**

☐ **Core or Elective**

Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)

Grading scheme

☒ **N (normal alpha grade)**

☐ **P (pass/fail)**

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments, midterms, project, and final exam as determined by the instructor.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

CEAB Graduate Attributes:

Attributes	Covered in the Course
Investigation	I
Design	I
Use of Engineering Tools	D
Individual and team work	D
Life Long Learning	I

CEAB Course Content Breakdown:

Math	Basic Science	Complementary Studies	Engineering Science	Engineering Design
0%	0%	0%	75%	25%

Students who successfully complete the course should have reliably demonstrated the ability to:

1. Explain the core concepts and significance of data analytics in modern decision-making processes.
2. Apply statistical, exploratory, and predictive modeling techniques to analyze structured and unstructured datasets.
3. Utilize standard data mining algorithms to extract insights and patterns from data.
4. Evaluate the effectiveness and limitations of analytic models in various real-world applications.
5. Communicate findings and recommendations derived from data analysis to both technical and non-technical audiences.

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

The Faculty of Engineering and Applied Science (FEAS) is fully committed to Equity, Diversity, and Inclusion (EDI), including in all of its courses. For students who have accommodation needs, existing Student Accessibility Services (SAS) support will be available to students who require specific accommodations.

Does this course 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

Financial Implications

There will be no significant financial impact, as the course will be delivered by the department's existing full-time faculty members.

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Faculty of Engineering and Applied Science

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☒ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BEng in Artificial Intelligence Engineering

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: ARTE

Course Number: 3000U

Full Course Title: Data and Feature Engineering

Short-Form Course Title (max. 30 characters): Data and Feature Engineering

Course Description

This course introduces the principles and practices of preparing data for artificial intelligence and machine learning systems. Students learn how to design data pipelines, manage and transform datasets, and construct effective features for predictive models. Topics include data ingestion, cleaning and transformation, feature engineering, dataset versioning, and reproducible data workflows using modern data processing tools and libraries. Emphasis is placed on building reliable, scalable, and ethical data preparation processes that support machine learning applications.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: 2 hr bi-weekly
Tutorial: 1.5 hr weekly	Other:
Cross-listings	
Prerequisites for Calendar	SOFE 2715U and ARTE 2200U: Introduction to Data Analytics
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments, midterms, project, and final exam as determined by the instructor.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

CEAB Graduate Attributes:

Attributes	Covered in the Course
Investigation	D
Design	D
Communication	D
Ethics and equity	D

CEAB Course Content Breakdown:

Math	Basic Science	Complementary Studies	Engineering Science	Engineering Design
0%	0%	0%	30%	70%

Students who successfully complete the course should have reliably demonstrated the ability to:

1. Design and implement basic data pipelines for acquiring and processing datasets used in AI systems.
2. Clean, transform, and manage structured and unstructured datasets using modern data processing tools.
3. Apply feature engineering techniques to prepare data for machine learning models.
4. Evaluate dataset quality, bias, and suitability for training and testing AI models.
5. Implement reproducible workflows for dataset preparation and management.
6. Integrate prepared datasets into machine learning pipelines for downstream modeling tasks.

Topics

1. Data Engineering in AI Systems
2. Data Ingestion and Data Sources
3. Data Storage, Schemas, and Data Formats
4. Data Cleaning and Validation Pipelines
5. Data Transformation for Machine Learning
6. Feature Engineering Fundamentals
7. Advanced Feature Engineering Techniques
8. Dataset Construction for Machine Learning
9. Data Leakage, Bias, and Dataset Integrity
10. Reproducible Data Workflows and Versioning
11. Feature Pipelines and ML Data Pipelines
12. Preparing Data for Machine Learning Systems

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

The Faculty of Engineering and Applied Science (FEAS) is fully committed to Equity, Diversity, and Inclusion (EDI), including in all of its courses. For students who have accommodation needs, existing Student Accessibility Services (SAS) support will be available to students who require specific accommodations.

Does this course 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

Financial Implications

There will be no significant financial impact, as the course will be delivered by the department's existing full-time faculty members.

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Faculty of Engineering and Applied Science

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☒ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BEng in Artificial Intelligence Engineering

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: ARTE

Course Number: 3200U

Full Course Title: Natural Language Processing

Short-Form Course Title (max. 30 characters): Natural Language Processing

Course Description

This course introduces the fundamental theories and practical skills required for Natural Language Processing (NLP). Students will explore core concepts such as text preprocessing, syntactic and semantic analysis, language modelling, and sentiment analysis. Emphasis is placed on developing the ability to collect, clean, and analyze text data using a variety of NLP algorithms and machine learning techniques. Through hands-on projects and coding assignments, students will gain experience building real-world NLP applications, including chatbots, information extraction tools, and text classifiers. The course bridges linguistic theory with computational techniques, preparing students for further research or industry applications in language technology

Credit Hours: 3

Contact Hours – please indicate total number of hours for each component

Lecture: 3

Lab:

Tutorial: 1.5 hr weekly

Other:

Cross-listings

Prerequisites for Calendar

SOFE 3720U and SOFE 3770U

Prerequisites for Banner

Co-requisites

**Prerequisites with concurrency
(pre or co-requisite)**

Credit restrictions

☐ **Equivalency***

Recommended Prerequisites

Course Restrictions

Course Type

☒ **Core**

☐ **Elective**

☐ **Core or Elective**

Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)

Grading scheme

☒ **N (normal alpha grade)**

☐ **P (pass/fail)**

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments, midterms, project, and final exam as determined by the instructor.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

CEAB Graduate Attributes:

Attributes	Covered in the Course
Problem Analysis	D
Design	A
Use of Engineering Tools	A
Impact of engineering on society and the environment	D
Life Long Learning	A

CEAB Course Content Breakdown:

Math	Basic Science	Complementary Studies	Engineering Science	Engineering Design
0%	0%	0%	75%	25%

Students who successfully complete the course should have reliably demonstrated the ability to:

1. Explain the foundational concepts and algorithms in natural language processing, including tokenization, stemming, parsing, and language modelling.
2. Preprocess and analyze text data using standard NLP libraries and techniques.
3. Design and implement programs to solve basic NLP tasks such as text classification, named entity recognition, and sentiment analysis.
4. Apply machine learning and deep learning approaches to build NLP applications.
5. Evaluate the performance of NLP models using appropriate metrics and methods.

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

The Faculty of Engineering and Applied Science (FEAS) is fully committed to Equity, Diversity, and Inclusion (EDI), including in all of its courses. For students who have accommodation needs, existing Student Accessibility Services (SAS) support will be available to students who require specific accommodations.

Does this course 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

Financial Implications

There will be no significant financial impact, as the course will be delivered by the department's existing full-time faculty members.

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Faculty of Engineering and Applied Science

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☒ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BEng in Artificial Intelligence Engineering

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: ARTE

Course Number: 4120U

Full Course Title: AI Agents and Multi-Agent Systems

Short-Form Course Title (max. 30 characters): AI Agents and Multi-Agent Systems

Course Description

This course introduces the principles and practices for designing, deploying, and coordinating AI agent-based systems. Students will learn how to build intelligent agents that can operate autonomously, collaborate effectively, and solve complex, multi-step tasks in dynamic environments. Key topics include role specialization, memory management, tool integration, task decomposition, error handling, and agent cooperation strategies. Through case studies and hands-on projects, students will automate six common business processes using coordinated teams of AI agents equipped with memory, tools, and strategic workflows.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: 2 hr bi-weekly
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	ARTE 3200U: Natural Language Processing
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments, midterms, project, and final exam as determined by the instructor.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](https://teachingandlearning.utoronto.ca/), or contact them at teachingandlearning@utoronto.ca.)

CEAB Graduate Attributes:

Attributes	Covered in the Course
Problem Analysis	D
Investigation	D
Design	D
Use of Engineering Tools	D
Life Long Learning	I

CEAB Course Content Breakdown:

Math	Basic Science	Complementary Studies	Engineering Science	Engineering Design
0%	0%	0%	75%	25%

Students who successfully complete the course should have reliably demonstrated the ability to:

1. Design autonomous AI agents with distinct roles and capabilities tailored to specific tasks.
2. Implement memory architectures for AI agents, including short-term, long-term, and shared memory to support decision-making.
3. Integrate tools and APIs into agent workflows to enhance their problem-solving and data-gathering capabilities.
4. Decompose complex tasks into sub-goals and assign them across multiple agents to improve performance and scalability.
5. Apply guardrails and safety mechanisms to handle agent errors, hallucinations, and unbounded loops.
6. Coordinate multi-agent systems using serial, parallel, and hierarchical cooperation models to automate real-world business processes.

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No **Please explain:**

The Faculty of Engineering and Applied Science (FEAS) is fully committed to Equity, Diversity, and Inclusion (EDI), including in all of its courses. For students who have accommodation needs, existing Student Accessibility Services (SAS) support will be available to students who require specific accommodations.

Does this course 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

Financial Implications

There will be no significant financial impact, as the course will be delivered by the department's existing full-time faculty members.

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Faculty of Engineering and Applied Science

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☒ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BEng in Artificial Intelligence Engineering

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: ARTE

Course Number: 4210U

Full Course Title: Autonomous and Connected Systems

Short-Form Course Title (max. 30 characters): Autonomous & Connected Systems

Course Description

This course introduces students to the foundational concepts and technologies behind autonomous and connected systems, with applications in areas such as self-driving vehicles, smart cities, robotics, and the Internet of Things (IoT). Topics include system architectures, sensor integration, localization and mapping, control and decision-making algorithms, vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication, data fusion, safety and ethical considerations. The course also explores the use of machine learning for perception, prediction, and planning in autonomous systems. Students will engage in hands-on labs and projects to design, simulate, and analyze autonomous and connected systems.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: 2 hr bi-weekly
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	SOFE 4590U
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☒ Core ☐ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments, midterms, project, and final exam as determined by the instructor.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

CEAB Graduate Attributes:

Attributes	Covered in the Course
Problem Analysis	A
Design	A
Use of Engineering Tools	A
Individual and team work	A
Impact of engineering on society and the environment	A

CEAB Course Content Breakdown:

Math	Basic Science	Complementary Studies	Engineering Science	Engineering Design
0%	0%	0%	75%	25%

Students who successfully complete the course should have reliably demonstrated the ability to:

1. Explain the key components, architecture, and operation of autonomous and connected systems.
2. Apply algorithms for localization, mapping, and motion planning in autonomous systems.
3. Integrate communication protocols (e.g., V2V, V2I) into connected system designs.
4. Implement basic sensor fusion and control strategies using real-time data inputs.
5. Analyze challenges related to safety, security, and ethics in autonomous and connected systems.

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☐ No Please explain:

The Faculty of Engineering and Applied Science (FEAS) is fully committed to Equity, Diversity, and Inclusion (EDI), including in all of its courses. For students who have accommodation needs, existing Student Accessibility Services (SAS) support will be available to students who require specific accommodations.

Does this course 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

Financial Implications

There will be no significant financial impact, as the course will be delivered by the department's existing full-time faculty members.

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

New courses must be entered into Curriculog prior to Faculty Council. Please use this template to provide the information to your Curriculog contact.

Faculty: Faculty of Engineering and Applied Science

This new course is associated with:

☐ Minor Program Adjustment ☐ Major Program Modification ☒ New Program ☐ None

Will this course appear anywhere other than the course description section of the Calendar?

☒ Yes ☐ No

If you answered yes to the above, please complete:

A new core course for an existing program, specialization or minor: Minor Program Adjustment

A new elective course for an existing program, specialization or minor, listed in the program map: Course Placement

A new course (core or elective) related to a Major Program Modification: Major Program Modification

A new course (core or elective) related to a New Program: New Program proposal

Programs impacted: [Please list all impacted programs including any applicable fields or specializations.]

BEng in Artificial Intelligence Engineering

Calendar start date: (When the course should first appear in the Academic Calendar 2020-2021)

Fall 2027

Registration start date: (The first time the course will be open for registration e.g. Fall 2020)

Fall 2027

Additional supporting information (optional; please indicate if you are attaching any additional documentation)

Subject Code: ARTE

Course Number: 4300U

Full Course Title: Computer Vision and Robotics

Short-Form Course Title (max. 30 characters): Computer Vision and Robotics

Course Description

This course provides an introduction to key aspects of computer vision with a focus on applications in robotics. Students will explore fundamental concepts and techniques in image processing and 3D vision that enable robots to perceive and interact with their environment. The course combines theoretical foundations with practical applications and case studies of real-world robotic vision systems.

Credit Hours: 3	
Contact Hours – please indicate total number of hours for each component	
Lecture: 3	Lab: 2hr bi-weekly
Tutorial:	Other:
Cross-listings	
Prerequisites for Calendar	SOFE 3720U
Prerequisites for Banner	
Co-requisites	
Prerequisites with concurrency (pre or co-requisite)	
Credit restrictions	☐ Equivalency*
Recommended Prerequisites	
Course Restrictions	
Course Type	☐ Core ☒ Elective ☐ Core or Elective
Is the course: ☒ Undergraduate ☐ Graduate ☐ Professional (e.g. some Education courses)	
Grading scheme	☒ N (normal alpha grade) ☐ P (pass/fail)

***Equivalency:** Two courses are similar enough in content that they are considered equivalent so students can register in either course but they will only receive credit for one course in their program.

Course instructional method:

CLS (In Class Delivery)	x	HYB (In Class and Online Delivery)	
IND (Individual Studies)		OFF (Off Site)	
WB1 (Virtual Meet Time – Synchronous)		WEB (Fully Online – Asynchronous)	
Not Applicable			

Teaching and assessment methods:

Assignments, midterms, project, and final exam as determined by the instructor.

Learning outcomes: (for assistance developing course learning outcomes, please refer to the Teaching and Learning [website](#), or contact them at teachingandlearning@ontariotechu.ca.)

CEAB Graduate Attributes:

Attributes	Covered in the Course
Design	A
Use of Engineering Tools	A
Professionalism	A
Economics and Project Management	A

CEAB Course Content Breakdown:

Math	Basic Science	Complementary Studies	Engineering Science	Engineering Design
10%	0%	0%	20%	70%

Students who successfully complete the course should have reliably demonstrated the ability to:

1. Explain the Principles of Image Formation and Camera Calibration
Students will be able to describe the geometry of image formation and apply camera calibration techniques for robotic vision systems.
2. Apply Image Processing and Feature Detection Techniques
Students will apply foundational image processing methods and feature detection/matching algorithms to extract meaningful visual information.
3. Analyze 3D Vision Techniques for Robotic Perception
Students will analyze and implement methods such as stereo vision and structure from motion to reconstruct 3D scenes from images.
4. Evaluate the Role of Machine Learning in Robotic Vision
Students will evaluate the application of machine learning and deep learning techniques in robotic vision tasks such as segmentation, object detection, and tracking.
5. Assess Real-World Robotic Vision Systems
Students will critically assess case studies of robotic vision systems, understanding how visual perception integrates with robotic tasks and decision-making.

Does this course contain any experiential learning components? ☐ Yes ☒ No

If yes:

Case Study		Simulated Workplace Project	
Consulting project/workplace project		Applied Research	
Field Experiences			
Other Types of Experiences:			

We have consulted with all impacted areas: ☒ Yes ☐ NA

Process of consultation, if applicable:

Have you considered the principles of Equity, Diversity, Inclusion, or Decolonization included when creating this new course? ☐ Yes ☒ No Please explain:

The Faculty of Engineering and Applied Science (FEAS) is fully committed to Equity, Diversity, and Inclusion (EDI), including in all of its courses. For students who have accommodation needs, existing Student Accessibility Services (SAS) support will be available to students who require specific accommodations.

Does this course 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

Financial Implications

There will be no significant financial impact, as the course will be delivered by the department's existing full-time faculty members.

Pre-Faculty Council Approval Dates (e.g. Curriculum Committee, Program Committee):

Appendix F - Faculty Information

Please include here only those currently at the institution and affiliated with the program.

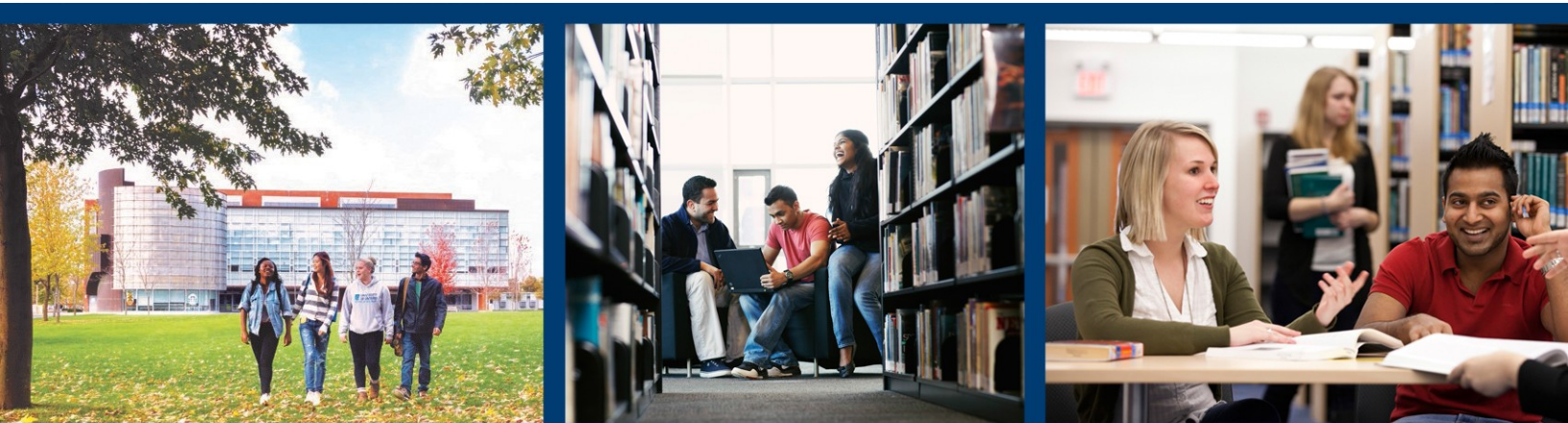
Name and Faculty Status/Rank	Terminal Degree	Home Faculty/Unit	Areas of Expertise	Role in New Program (Note if faculty will be teaching and/or supervising in the program)	Total Undergraduate Teaching (including New Program) (Note in bold type if faculty is a core course developer for the program)
Dr. Anwar Abdalbari Associate Teaching Professor	PhD	FEAS	Electrical, Computer and Software Engineering	Teaching - SOFE 2710U, SOFE2715, SOFE 2720U, Intro to AI	6-7 courses Software/Electrical Engineering
Dr. Khalid Elgazzar Associate Professor	PhD	FEAS	Electrical, Computer and Software Engineering	Teaching - ENGR 1200U, SOFE 4590U New courses Intro to Data, Deep Learning Architecture & Algorithms)	3-4 courses Software and the AI program
Dr. Khalid Abdel Hafeez Associate Teaching Professor	PhD	FEAS	Electrical, Computer and Software Engineering	Teaching - SOFE 3770U, SOFE 2250U, SOFE 4620, Intro to AI (new course Learning Architecture & Algorithms)	6-7 courses Software and the AI program
Dr. Qusay Mahmoud Professor	PhD	FEAS	Middleware	Teaching software development, distributed systems, and supervision of capstone projects.	3-4 courses
Dr. Sanaa Alwidian Assistant Professor	PhD	FEAS	Requirements Engineering, AI for Software Engineering, Software Modeling and Analysis	Teaching Requirements Engineering and AI for Software Engineering courses	3-4 courses

Dr. Masoud Makrehchi Associate Professor	PhD	FEAS	AI, Machine Learning, Natural Language Processing, Data mining	Teaching a broad range of courses in AI and Machine Learning and Algorithm Design, SOFE 3720U, SOFE 4620U	3-4 Courses
Dr. Akramul Azim Associate Professor	PhD	FEAS	Embedded systems, cyber physical systems, AI-based software systems, Software Testing, DevOps, AI/ML	Teaching courses related to AI-based systems and DevOps, SOFE 4590U	3-4 Courses
Masoud Farzam Associate Teaching Professor	PhD	FEAS		Teaching labs & ENGR 2100U/ELEE 2200U	6-7 courses Laboratory
Dr. Tarlochan Sidhu Professor	PhD	FEAS	Electrical, Computer and Software Engineering	ENGR 1015U, ENGR 1025U	3-4 Courses
Dr. Hani Sami Assistant Professor	PhD	FEAS	Electrical, Computer and Software Engineering	SOFE 3650U	3-4 Courses
Dr. Mohamed El-Darieby Associate Professor	PhD	FEAS	Electrical, Computer and Software Engineering	SOFE 3290U	3-4 Courses
Dr. Nasim Moallemi Associate Teaching Professor	PhD	FEAS	Electric Circuit, Electronics, Digital Systems, and Electrical Engineering Fundamentals, Microprocessor and Embedded Systems	Teaching - ENGR 4760U & ENGR 3360U	6-7 courses
Various faculty members from the Faculty of Science	PhD	FSCI	Calculus, Physics, Chemistry, Linear Algebra, Statistics,	Teaching - Foundational Mathematics and Physics courses	6-7 courses Mathematics/Science/Engineering

New Program Assessment: Bachelor of Engineering (Honours), Artificial Intelligence Engineering

Library Statement of Support Provided to Ontario Tech University

Prepared by: Kate Gibbings, Faculty of Engineering and Applied Science Liaison Librarian, July 8, 2025



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Summary

Ontario Tech University Library's holdings in Artificial Intelligence Engineering are strong.

Library collections support artificial intelligence topics in all engineering program areas, and particularly in the disciplines of software and computer engineering. Topic coverage includes machine learning, information theory, algorithms, models, data mining, deep learning, neural networks, supervised learning, and multiagent systems.

The Library's research holdings, as well as archives and special collections total more than 98,368 print volumes and 187,387 journal subscriptions. In addition, our holdings include more than 1,484,750 e-books, and primary source materials. Collection strengths support the research and instructional programs at Ontario Tech University.

Opportunities exist to incorporate information literacy instruction directly into the Bachelor of Engineering (Honours), Artificial Intelligence Engineering program. Student feedback from information literacy sessions overwhelmingly shows that students find the skills to be useful and that information literacy instruction should ideally be incorporated into first year classes. The following are examples of undergraduate engineering courses that could benefit from information literacy instruction due to assignments that require research skills and research-related information resources.

- SSCI 1470U: Impact of Science and Technology on Society
- ENGR 3150: Artificial Intelligence and Machine Learning
- ENGR 4940: Capstone Systems Design for Electrical, Computer and Software Engineering I

Resource Requirements

Resource	Rationale	Budget Requirement	OTO or Ongoing
Total			

Introduction

The Library supports the teaching, learning and research missions of Ontario Tech University and Durham College. Ontario Tech students have access to a joint collection of more than 98,368 print books. Additionally, our collections include extensive online resources such as e-books and online databases that are selected to meet curricular needs. Students and faculty are supported by a team of subject specialist librarians and trained library technicians who provide an array of research and teaching support services including information literacy instruction, workshops, research help and reference service.

Library Collections

The Library's collections budget for 2024-25 totaled \$1,995,032. Approximately 95% of this budget is directed to online resources, while the remainder is allocated to acquisition of other formats, including journals, print books, multimedia and other specialized material.

Library collections provide strong support for artificial intelligence topics in all engineering program areas, and particularly in the disciplines of software and computer engineering. Given the importance of artificial intelligence in curriculum and research across the Faculty, the Library has both built up subject coverage over time and taken steps to maintain the currency of resources. Topic coverage includes machine learning, information theory, algorithms, models, data mining, deep learning, neural networks, supervised learning, and multiagent systems.

Collection suggestions are welcome and faculty and students are encouraged to contact their subject specialist. All recommended purchases are evaluated according to the Collection Development Policy and with consideration to budget constraints.

Consortial Licensing

By virtue of our membership in two key consortia, the Ontario Tech University community benefits from the increased bargaining power of a collective through which we subscribe to a wide array of scholarly content. Canadian Research Knowledge Network (CRKN) members represent 81 institutions across Canada that include world-class academic libraries and research institutions, two national libraries, and Canada's largest public library system.

The Ontario Council of University Libraries (OCUL) is a consortium of Ontario's 21 university libraries which works together to maximize our collective expertise and resources. OCUL enhances information services in Ontario and beyond through collective purchasing and shared digital information infrastructure, collaborative planning, advocacy, assessment, research, partnerships, communications, and professional development.

Journals

Our journal holdings in disciplines related to Artificial Intelligence Engineering are strong, including coverage of artificial intelligence, software engineering, and computer science.

Students and researchers can access nearly complete journal suites, in many cases including archives, from publishers such as ACM, ASME, Elsevier, IEEE, SAE, Springer, and Wiley.

Library Statement for Artificial Intelligence Engineering Program Review

We provide access, through subscription, to most of the relevant journals with the highest impact factors, according to Clarivate's Journal Citation Reports (JCR) database 2024.

By subject category:

JCR Subject Category	Ontario Tech Access	Select Titles
Computer Science, Artificial Intelligence	19 of Top 20	• Nature Machine Intelligence • IEEE Transactions on Pattern Analysis and Machine Intelligence • Artificial Intelligence Review
Computer Science, Software Engineering	20 of Top 20	• Computational Visual Media • Communications of the ACM • IEEE Transactions on Dependable and Secure Computing
Engineering, Electrical and Electronic	20 of Top 20	• Nature Electronics • IEEE Transactions on Fuzzy Systems

Books & E-Books

In total, the Library provides access to over 98,368 print books and over 1,484,750 e-books that support teaching, learning and research across all programs and disciplines. Through the Omni Library Search, students and faculty have access to books from Ontario Tech and other Omni member universities by searching Ontario Tech + Omni Libraries. Articles and books that are not available through Omni Libraries, can be requested through our interlibrary loan service. Students and faculty have access to books and e-books from major academic publishers, including: ASME, Cambridge University Press, Cengage, CRC Press, IEEE, IET, Elsevier, McGraw Hill, O'Reilly, Packt, Pearson, SAE, SIAM, Springer, Taylor & Francis, and Wiley.

The Library has a Demand-Driven Acquisition (DDA) Engineering collection that adds more than 5,800 recently published engineering e-books from major publishers to the Omni Search tool, with titles updated regularly. As users access specific e-books, those titles are then added to the Library's permanent collection. This allows the Library to vastly increase the availability of relevant titles, while focusing budget funds on e-books that have proven value to students and faculty.

The following table highlights Library holdings by subject heading for print books and e-books that have particular relevance to Artificial Intelligence Engineering. No significant gaps were identified, but the Library will address the collection development needs of this rapidly developing field as follows:

- The Library prioritizes e-book purchases because digital formats facilitate accessibility, convenience and currency. While print book totals are low in some subject areas, this often reflects a necessary focus of funds on e-books. Having said that, it is important for the Library to

maintain carefully managed print budgets as some highly relevant books cannot be licensed digitally by libraries due to publisher limitation or cost.

- One way the Library can facilitate access to books on the most current and important topics is by maintaining subscriptions to highly relevant collections such as O'Reilly for Higher Education that continuously add new curated titles, and funds for Demand-Driven Acquisition.

Subject	# Print Books	# E-Books
Artificial Intelligence	210	37,420
Data Mining	141	10,572
Computational Intelligence	28	10,571
Algorithms	158	10,553
Machine Learning	54	8,803
Natural Language Processing or Natural Language Generation (Computer Science)	16	3,059
Neural Networks (Computer)	27	2,734
Deep Learning	2	513
Multiagent Systems	4	594

Search Tools

The Library subscribes to many research databases and indexes that provide access to the literature in Artificial Intelligence Engineering. Systematic searching of these resources enables students and faculty to access journals and other academic resources such as conference proceedings, theses and dissertations, trade publications and reports.

Highly Relevant Databases: Engineering & Computer Science	Relevant Databases: STEM & Multidisciplinary	Relevant Databases: Standards
• ACM Digital Library • ASME • ASTM Digital Library • Computers & Applied Sciences Complete • Engineering Village (INSPEC and Compendex) • IEEE Xplore • O'Reilly for Higher Education • SAE Mobilus • SPIE	• Elsevier ScienceDirect • IOP Science • SciTech Premium Collection • Scopus • SIAM Journals • SpringerLINK • Web of Science	• CSA OnDemand • ASME Standards • ASTM Standards • IEEE Standards • Techstreet Enterprise

Other Library Resources

Standards

The Library subscribes to full standards collections from selected publishers as noted in the table above, but also purchases standards from other publishers via Techstreet Enterprise. Faculty, research teams and students can request standards which are then made available in Techstreet.

Data Resources

The Library provides access to Borealis: The Canadian Dataverse Repository, which supports research data management and open access data requirements for Tri-Agency research funding compliance. To support research that requires statistics and datasets, the Library subscribes to three main resources. Data Liberation Initiative (DLI), odesi and ICPSR provide access to Canadian and American datasets.

Multimedia Resources

Multimedia resources are selected individually or as part of standing subscriptions. Our collection includes 74,347 streaming videos. The collections below are relevant to Engineering programs.

Relevant Streaming Video Collections

Streaming Video Collection	Relevant Titles
O'Reilly for Higher Education	Video content includes videos from courses, conferences and case studies. Titles in Skill category Artificial Intelligence: 131
Kanopy Streaming	Computer Science and Technology: 497

Select Recently Added Multimedia Titles

- Using AI Responsibly. (2024). O'Reilly Media.
- A.I. Revolution. (2024). PBS Nova.

- Introduction to Machine Learning. (2020). The Great Courses.

Library Services

A range of library services support teaching, learning and research at the University. Students and faculty in the Faculty of Engineering and Applied Science have access to services in-person, online and via email or telephone.

Research Support

The Library plays a vital role in supporting student and faculty research at Ontario Tech.

Reference Service & Research Consultations

Students and faculty have access to research support in-person and online, via telephone, email and through online chat help. In the 2024-25 academic year, library staff answered 2,979 research questions from the Ontario Tech community. Of these questions, 224 were from faculty or graduate students.

Librarians provide individualized research consultations with students and faculty, in person or online. These consultations are tailored to meet the needs of individual researchers and can cover a range of topics from basic introductions to more advanced search techniques and support for literature reviews. In the 2024-25 academic year, Librarians participated in 155 research consultations. The Engineering Librarian engaged in ten research consultations with Faculty of Engineering and Applied Science students.

Open Access & Research Data Management

We provide support to faculty and students in complying with the Tri-Agency Open Access Policy (SSHRC, NSERC, CIHR). Faculty and students can make their work open by publishing in an open access or hybrid journal, by depositing their work in a subject repository, or by depositing their work in Ontario Tech's institutional repository, eScholar (<https://ir.library.ontariotechu.ca>).

We also provide direct support to Faculties through dedicated subject specialist/liaison librarians and online guidance with the Library's Open Access Guide (<http://guides.library.ontariotechu.ca/openaccess>). The Library has a Research Data Management guide (<http://guides.library.ontariotechu.ca/rdm>) to support faculty and students in creating data management plans and sharing research data.

During the 2024-2025 academic year, these guides were viewed 1,481 times.

Research Metrics & Impact

The Library supports various departments on campus by fielding requests for reports on author, article, journal and institutional metrics. Subscribed tools include: Web of Science, Scopus and Journal Citation Reports (JCR).

Our Research Metrics guide (<http://guides.library.ontariotechu.ca/researchmetrics>) provides background information and support for these tools.

Theses & Dissertations

To ensure that the Ontario Tech community has access to national and international thesis and dissertation databases, we provide access to PQDT (ProQuest Dissertations and Theses) and the Theses

Canada Portal. The Library plays a key role in the dissemination and preservation of Ontario Tech theses, managing copies in the institutional open-access digital repository, E-Scholar, as well as maintaining print copies in the Library archives.

Teaching & Learning Support

As partners in teaching and learning at Ontario Tech, we provide a range of instructional and curriculum supports, both in person and online.

Information Literacy Instruction

In collaboration with teaching faculty, Librarians deliver customized information literacy instruction that support the development of students' 21st century skills to successfully search, evaluate and ethically use scholarly resources in their course requirements. These library services are aligned with the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education. Information literacy sessions are tailored to the specific requirements of the course or assignment. Information literacy may be delivered synchronously or asynchronously to classes, in person or online. Library information literacy modules are available in the Canvas Learning Management System and can be adapted and added directly into courses, or instructors can opt for asynchronous recordings.

In the 2024-25 academic year, 129 students in the Faculty of Engineering and Applied Science received course-integrated instructional support from a Librarian. Information literacy instruction is not integrated into any undergraduate courses in the Software or Electrical Engineering programs, though it is integrated into the following courses:

- NUCL 4610: Corrosion for Engineers
- NUCL 4625: Radioactive Waste Management
- NUCL 4994: Capstone Design I
- ENGR 5003/6003: MSc Seminar for Automotive and Mechanical Engineering
- ENGR 5007/6007: MSc Seminar for Electrical, Computer and Software Engineering

The Librarian-created asynchronous guide Library Research for Engineering Students, noted below, is well used by Engineering students. Students may also receive Information Literacy instruction from a Librarian in their elective or communications courses, as well as voluntary workshops.

Ideally, Information Literacy instruction is scaffolded across the required curriculum, enabling students to build increasingly sophisticated research skills throughout their program of study. Student feedback from information literacy sessions indicates that 78% of students felt more confident using the library after receiving library instruction, 84% of students felt that they learned something new, and that students often wish they could have received this training earlier in their program.

The following courses have been identified as potential Information Literacy touchpoints, due to assignments or projects with research components:

- SSCI 1470U: Impact of Science and Technology on Society
- ENGR 3150U: Artificial Intelligence and Machine Learning
- ENGR 4940: Capstone Systems Design for Electrical, Computer and Software Engineering I

Co-curricular Workshops

In addition to Information Literacy instruction that is integrated into the curriculum, the library offers a number of co-curricular workshops that help develop student and faculty skills. Some examples of workshops offered to Ontario Tech students in the past include:

- Ridgeback Ramp Up: Finding and Reading Peer Reviewed Journal Articles
- 3D Printing Workshops
- Making an Impact: Your Research Identity
- EndNote Essentials: Streamline your Research Process

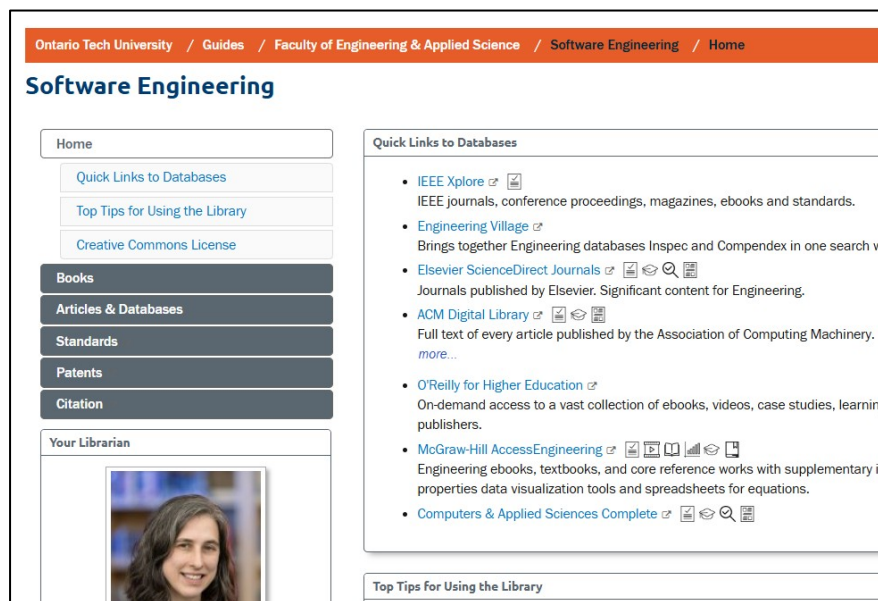
Workshop offerings are regularly updated in response to the changing needs of the community.

Online Research Guides

Subject specialist librarians create custom Research Guides for each subject area that are available from the Library website. Research Guides include program and course guides that are directly related to the program and course curriculum, as well as topic guides that have cross-disciplinary relevance.

- Software Engineering Research Guide: <https://guides.library.ontariotechu.ca/soft-eng>
- Library Research for Engineering Students: <https://guides.library.ontariotechu.ca/engineering>
- Standards and Codes Research Guide: <https://guides.library.ontariotechu.ca/standards>

During the 2024-2025 academic year, these guides were viewed a combined 4,754 times. The Library's Citation Guide, which covers IEEE citation, was viewed 5,865 times.



Software Engineering Research Guide

Copyright & Academic Integrity

The Library provides copyright guidance for faculty and students. Library staff advise on license terms and the integration of content into the Learning Management System (LMS). We also help faculty find, evaluate and integrate Open Educational Resources into their courses.

Our research support services including our citation guides help students avoid plagiarism and comply with the University's Academic Conduct policy.

Course Reserves

Instructors can place materials on course reserve in the library, or make course materials available online through our electronic course reserves system. Online course reserves can include the library's print holdings, as well as digitized chapters, and links to journals, e-book chapters, videos and more. We are dedicated to providing equitable access to resources, and our online reserves are subject to copyright compliance and licensing restrictions.

3D Printing & Equipment Loans

Students have access to 3D printers and 3D printing workshops and can borrow equipment such as laptops and device chargers.

Library Staffing

The anticipated intake for students in the Bachelor of Engineering (Honours), Artificial Intelligence Engineering program is as follows:

Information provided by Program Quality office

We anticipate that there will be additional staffing requirements associated with growth in graduate and undergraduate degree programs across the University. These requests will be part of the regular budget planning process, following a fulsome and strategic analysis of our staffing needs.

Conclusion

The Library is well-positioned to support the Bachelor of Engineering in Artificial Intelligence Engineering. Our suite of services and programs will meet the needs of students and faculty in this program.

We look forward to working in collaboration with students and faculty in this new program.

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 Bookstore](#), [Housing and Living Resources](#) as well as the [Ontario Tech Student Union](#). Further information can be found at: <http://studentlife.ontariotechu.ca/>.

Faculty-Specific Support

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 Academic Advisors are committed to helping students develop and reach their academic and personal goals.

The FEAS Academic Advising Office is comprised of four full-time advisors. They include one First Year Advisor and three Upper Years Advisors, along with a Manager of First Year Advising and a Manager of Upper Year Advising. The Academic Advisors work closely with the Department Chair for program related matters and to ensure that the advising needs of students in the program are met.

In recent initiatives by the University, both Managers have dual reporting to the Director of Academic Advising in the Office of the Deputy Provost (for all issues related to Human Resources, Training, and University wide policies and procedures) and to the Associate Dean, Academic within the Faculty (for all issues related to academic matters including but not limited to: course selection, academic standing, readmission, etc.) This model ensures consistency of Academic Advising across the University by developing University wide procedures and providing the required training/professional development while also ensuring that academic matters are contained within the program and the Faculty. It must be stated here that this new structure provides our engineering programs with the expected autonomy to better serve the students in each engineering discipline and relieve the Associate Dean of non-academic matters.

The services provided by Academic Advisors include, but are not limited to:

- Address questions and concerns related to all aspects of student life
- Help establish realistic educational goals and future planning
- Assist in appropriate course planning and sequencing according to the approved program map
- Assess and discusses academic performance, progress, and standing
- Provide strategies and resources for academic success
- Interpret academic policies and procedures
- Ensure all degree requirements are met for timely and successful graduation

- Provide guidance to students on the selection of engineering and liberal studies electives

Student Life

Student Learning Centre

Ontario Tech University fosters a high level of academic excellence by working with students, undergraduate and graduate, to achieve educational success. Faculty specific academic resources are available online and include tip sheets and videos. Academic specialists offer one-on-one support services in mathematics, writing, study skills, ESL and physics. With the additional support of peer tutors and workshops, the Student Learning Centre can also accommodate the needs of a specific course or program.

Student Accessibility Services

Ontario Tech University ensures that students with disabilities have equal opportunities for academic success. Student Accessibility Services operates under the Ontario Human Rights Code and the Accessibility for Ontarians with Disabilities Act. Services and accommodation support are provided for students with documented disabilities and include:

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

Student Accessibility Services also provides inclusive peer spaces, support groups, and skills workshops for students.

Career Readiness

Ontario Tech University offers comprehensive career service assistance, co-op and internship support 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 internships
- Interview preparation
- Job market information
- Job search strategies

The Career Centre hosts a variety of events during the academic year including employer information and networking sessions, job fairs and interviews conducted by leading employers.

Student Engagement, Equity and Inclusion, and Indigenous Education and Cultural Services

The university supports students' successful transition and provides opportunities to develop leadership and professional skills throughout their university career. Services provided include:

- Equity and inclusivity programming and support groups
- Indigenous Education and Cultural Services provides space and supports for students to connect with Indigenous culture and resources
- Opportunities to grow and develop leadership skills through the Ambassador and Peer Mentorship program
- Orientation and events through first year
- Peer mentoring
- Services and supports for international and exchange students
- Specialized programming for first-generation, graduate, Indigenous, international, mature, online, transfer and diploma-to-degree pathways students

Student Mental Health Services

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

- Access short term counselling and therapy services
- Access tools and resources online to learn about mental health and how to maintain good health and wellness
- Attend drop-in sessions
- Participate in events, activities or support groups that promote positive health and well-being
- Work with a mental health professional to address concerns

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 SAFA 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).

Teaching & Learning Centre

The mission of the Teaching and Learning Centre (TLC) at Ontario Tech University 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 University 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.

Information Technology Resources

Ontario Tech University is a leader among North American universities in implementing and using curriculum and industry specific software in a technology-enriched learning environment (TELE). Our unique environment is adapted to each discipline based on faculty requirements and input for optimal student learning. We are committed to providing the greatest value for students' investment in education and technology while studying at Ontario Tech University.

One of the greatest advantages of Ontario Tech University's approach to TELE is that all students have equal access to the same technology, resources and services. Whether you are inside or outside of the classroom, your course-specific software allows you to work on your own or with others and enjoy seamless access to all Ontario Tech online resources. TELE supports Bring-your-own-device (BYOD) which provides you with laptop standards when acquiring the right laptop for your program and software support services onsite and online. An annual fee for TELE covers a wide range of program-specific software, technical software support, exam support and virus protection.

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 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.

Exam support services

IT Services provide hardware, software and technical support during examinations. IT team will be equipped with loaner laptops in the event of major technical issues.

Laptop repairs

IT Services provide on campus repairs on eligible laptop models.

IT Service Desk

Appendix J - Information Technology Resources

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.

General Use Workstations (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.

REVIEWERS' REPORT FOR NEW PROGRAMS

Reviewers' Report on the Proposed Bachelor of Engineering (Honours) in Artificial Intelligence Engineering at Ontario Tech University

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1. OUTLINE OF THE REVIEW

Please indicate whether this review was conducted by desk audit or site visit. For those reviews that included a site visit, please indicate the following:

- Who was interviewed
- What facilities were seen
- Any other activities relevant to the appraisal

This review was conducted as a site visit. Prior to the visit, the external reviewers received program documentation, including the program proposal and supporting appendices, which informed the on-site discussions and appraisal.

During the site visit, the reviewers met with senior academic leadership, program leadership, faculty members involved in the delivery of the proposed program, and representatives from key academic and student support services. Meetings were also held with undergraduate and graduate students to gather feedback on student perspectives and expectations related to the proposed program.

The visit included a guided tour of campus facilities, with particular attention to existing engineering laboratories and a fabrication laboratory that could support experiential and applied components of the Artificial Intelligence Engineering curriculum. Dedicated sessions were also held with learning resources and student support units, including academic advising, co-operative education and career development, library services, IT services, counselling and accessibility services, and the Student Learning Centre.

In addition to interviews and facility visits, the reviewers participated in presentations outlining the institutional context, program objectives, and curriculum structure. Time was allocated for private deliberation among the external reviewers, followed by concluding discussions with program leadership to clarify outstanding questions and summarize preliminary observations.

2. EVALUATION CRITERIA

NOTE: Reviewers are asked to provide feedback on each of the following Evaluation Criteria ([Quality Assurance Framework 2021, Section 2.1.2](#)).

2.1 Program Objectives

- Clarity of the program's objectives
- Appropriateness of degree nomenclature given the program's objectives

- Consistency of the program's objectives with the institution's mission and academic plans

The program objectives are clearly articulated and well aligned with the proposed degree designation of Bachelor of Engineering (Honours), Artificial Intelligence Engineering. They are also consistent with the mission and academic plans of the Faculty of Engineering and Applied Science and with the broader institutional emphasis on technology-driven innovation and societal impact.

While the objectives are appropriate and coherent, the review identified a need for clearer articulation of how this program is distinct from having an Artificial Intelligence option within the existing Software Engineering program. The absence of a clearly communicated differentiation may create confusion for prospective students; a concern echoed during discussions with undergraduate students. Explicitly defining this unique identity will be essential to strengthening the program's market positioning.

2.2 Program requirements

- Appropriateness of the program's structure and the requirements to meet its objectives and program-level learning outcomes
- Appropriateness of the program's structure, requirements and program-level learning outcomes in meeting the undergraduate or graduate Degree Level Expectations
- Appropriateness of the proposed mode(s) of delivery to facilitate students' successful completion of the program-level learning outcomes
- Ways in which the curriculum addresses the current state of the discipline or area of study

The overall structure of the program and its requirements are appropriate for achieving the stated objectives and program-level learning outcomes of a BEng (Honours) degree. The learning outcomes align with provincial Undergraduate Degree Level Expectations (UDLEs) and demonstrate the appropriate engineering rigor and specialized AI competencies expected of such a program.

While the foundation is solid, several aspects of the curriculum warrant refinement. Notably, core AI coursework is currently concentrated in the third and fourth years; introducing these concepts earlier in the program would likely enhance curricular coherence and sustain student engagement. Furthermore, the integration of courses leveraged from the Software Engineering program requires closer attention to ensure consistent alignment of content and a logical learning progression. Finally, streamlining the prerequisite chains would improve transparency and overall structural clarity.

The proposed modes of delivery are appropriate and support students' successful completion of the program-level learning outcomes. While the curriculum broadly reflects the current state of the discipline, the program's impact could be further enhanced by more explicitly bridging the gap between AI theory, engineering practice, and their diverse application domains.

2.3 Program requirements for graduate programs only

- Clear rationale for program length that ensures that students can complete the program level learning outcomes and requirements within the proposed time
- Evidence that each graduate student in the program is required to take a minimum of two-thirds of the course requirements from among graduate-level courses
- For research-focused graduate programs, clear indication of the nature and suitability of the major research requirements for degree completion

2.4 Assessment of teaching and learning

- Appropriateness of the methods for assessing student achievement of the program-level learning outcomes and degree level expectations
- Appropriateness of the plans to monitor and assess:
 - i. The overall quality of the program
 - ii. Whether the program is achieving in practice its proposed objectives
 - iii. Whether its students are achieving the program-level learning outcomes
 - iv. How the resulting information will be documented and subsequently used to inform continuous program improvement

The program employs a diverse and appropriate set of assessment methods to evaluate student achievement of program-level learning outcomes and degree level expectations. These include traditional assessments such as exams and assignments, as well as applied labs, coding exercises, design projects, and communication-focused assessments.

A two-semester capstone design project provides a strong culminating experience, requiring students to address real-world engineering problems while considering economic, ethical, and safety constraints. Experiential learning opportunities, including co-operative education, further support applied learning and professional development.

The plans for monitoring and assessing program quality are well defined and multi-layered. These include launch and post-launch reporting, cyclical program reviews, curriculum mapping, direct and indirect assessment measures, and alignment with Engineers Canada accreditation requirements. The framework provides a sound basis for documenting outcomes and supporting continuous program improvement.

2.5 Admission requirements

- Appropriateness of the program's admission requirements given the program's objectives and program-level learning outcomes
- Sufficient explanation of alternative requirements, if applicable, for admission into a graduate, second-entry or undergraduate program, e.g., minimum grade point average, additional languages or portfolios, and how the program recognizes prior work or learning experience

The admission requirements for the program are appropriate and clearly justified given the program's objectives and learning outcomes. They ensure that incoming students possess the necessary foundations in mathematics, science, and communication to succeed in a rigorous engineering and AI-focused curriculum.

The inclusion of alternative pathways, such as recognition of transfer and mature students, offers necessary flexibility without compromising academic rigor. Overall, the admission framework is well aligned with professional and accreditation expectations.

2.6 Resources for all programs

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

- Participation of a sufficient number and quality of core faculty who are competent to teach and/or supervise in and achieve the goals of the program and foster the appropriate academic environment

- If applicable, discussion/explanation of the role and approximate percentage of adjunct and part-time faculty/limited term appointments used in the delivery of the program and the associated plans to ensure the sustainability of the program and quality of the student experience
- If required, provision of supervision of experiential learning opportunities
- Adequacy of the administrative unit's planned utilization of existing human, physical and financial resources, including implications for the impact on other existing programs at the university
- Evidence that there are adequate resources to sustain the quality of scholarship and research activities produced by students, including library support, information technology support, and laboratory access
- If necessary, additional institutional resource commitments to support the program in step with its ongoing implementation

With the recent hiring of two new faculty members, the number and quality of core faculty appear appropriate to deliver the program, particularly given the presence of teaching-stream faculty with higher teaching capacities. While faculty expertise in AI-related domains is a notable strength, the allocation of teaching responsibilities requires further clarification. The development of multiple new courses—coupled with overlaps in existing offerings from other faculties—raises concerns regarding faculty workload and the long-term sustainability of the program's delivery model.

Non-academic resources are generally strong, and support staff demonstrate a solid understanding of the challenges associated with launching a new AI-focused engineering program. Several areas, however, warrant further development. Library resources should be more explicitly planned to address the specific and evolving needs of AI engineering. Co-operative education services would benefit from a more targeted strategy to identify industry partners and internship opportunities aligned with AI application domains.

The absence of a clearly articulated plan for dedicated computing infrastructure, including access to advanced resources such as GPUs, represents a notable gap. Additional human resources with appropriate technical expertise may be required to support and maintain such infrastructure. Existing engineering laboratories and a fabrication lab offer valuable opportunities, and further work is encouraged to more explicitly connect these facilities to the AI engineering curriculum. Finally, operational effectiveness would be strengthened by improved coordination and enhanced AI literacy across key service units, including co-op services, academic advising, and accessibility and learning supports.

2.7 Resources for graduate programs only

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

- Evidence that faculty have the recent research or professional/clinical expertise needed to sustain the program, promote innovation, and foster an appropriate intellectual climate
- Where appropriate to the program, evidence that financial assistance for students will be sufficient to ensure adequate quality and numbers of students
- Evidence of how supervisory loads will be distributed, in light of qualifications and appointment status of the faculty

2.8 Quality and other indicators

- Evidence of quality of the faculty (e.g., qualifications, funding, honours, awards, research, innovation and scholarly record; appropriateness of collective faculty

- expertise to contribute substantively to the program and commitment to student mentoring)
- Any other evidence that the program and faculty will ensure the intellectual quality of the student experience

NOTE: Reviewers are urged to avoid using references to individuals. Rather, they are asked to assess the ability of the faculty as a whole to deliver the program and to comment on the appropriateness of each of the areas of the program (fields) that the university has chosen to emphasize, in view of the expertise and scholarly productivity of the faculty.

The overall quality of the faculty involved in the program is good, with strengths in both research and teaching. Faculty expertise is well aligned with the intended focus areas of the program, and collectively, the faculty are well positioned to provide a strong intellectual and educational environment for students.

To fully leverage this faculty strength and ensure the program attracts top-tier talent, the establishment of dedicated scholarships is highly recommended. Such financial support would not only enhance recruitment but also solidify the program's standing as a premier destination for Artificial Intelligence Engineering.

3. EQUITY, DIVERSITY, INCLUSION, AND DECOLONIZATION

Please comment on any consideration of the principles of equity, diversity, inclusion, and decolonization in the new program.

The program demonstrates meaningful consideration of Equity, Diversity, Inclusion, and Decolonization principles. An integrated ethical AI stream runs throughout the curriculum, supported by core courses that address professional responsibility, equity, and ethical engineering practice. The program also critically engages with issues such as algorithmic bias and data colonialism and adopts principles of Universal Design for Learning to enhance accessibility.

Institutional support structures, including Indigenous education services and equity-focused student engagement units, further reinforce these commitments. Faculty research addressing bias and social responsibility in technology aligns well with the institution's broader mandate and supports the integration of EDID principles as a core component of engineering education.

4. OTHER ISSUES

- Please highlight any unique curriculum or program innovation, creative components, or significant high-impact practices
- Please identify any other issues that may not be covered above

No further concerns or issues were identified beyond those previously addressed in this report.

5. SUMMARY AND RECOMMENDATIONS

Please provide a summary of your conclusions and include a numbered list of each of your recommendations.

NOTE: The responsibility for arriving at a recommendation on the final classification of the program belongs to the Appraisal Committee. Individual reviewers are asked to refrain from making recommendations in this respect.

Overall, the proposed Bachelor of Engineering (Honours) in Artificial Intelligence Engineering is solid and well grounded, with clear objectives, appropriate learning outcomes, strong assessment

practices, and a capable faculty base. While the program aligns seamlessly with institutional priorities and professional accreditation standards, strategic refinements are necessary to improve its structural coherence, competitive differentiation, and long-term resource planning.

Recommendations:

R1: Program Differentiation. Clearly articulate and communicate the unique identity of the Artificial Intelligence Engineering program to distinguish it from the AI option in Software Engineering. This will ensure clarity for prospective students and strengthen the program's market positioning.

R2: Curricular Sequencing and Coherence. Revisit the curriculum structure to introduce core AI concepts earlier in the program while ensuring seamless alignment between newly developed courses and those leveraged from Software Engineering. This will improve student engagement and create a more logical learning progression.

R3: Faculty Workload and Sustainability. Formally define teaching responsibilities and resource allocations to ensure faculty workloads remain sustainable as new courses are developed. Addressing potential overlaps with other faculties will be essential for the program's long-term operational health.

R4: Computing Infrastructure and Technical Support. Develop a comprehensive strategy for AI-specific computing infrastructure, specifically ensuring reliable access to high-performance GPU resources. This plan should include the recruitment or allocation of technical personnel dedicated to maintaining these specialized systems.

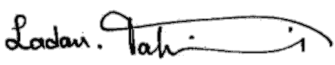
R5: Support Service Coordination and Literacy. Enhance coordination between academic advising, co-op services, and learning support units to ensure they are equipped with the specific AI literacy required to assist students in this discipline. This integrated approach will improve the overall student experience and operational effectiveness.

R6: Integration of Experiential Facilities. Strengthen the explicit connections between the curriculum and existing engineering and fabrication laboratories to maximize opportunities for applied learning. Formalizing these links will better support the experiential requirements of the Artificial Intelligence Engineering degree.

R7: Student Recruitment and Financial Support. Consider exploring a suite of dedicated scholarships specifically for the Artificial Intelligence Engineering program to attract and retain top-tier applicants. Providing targeted financial incentives will ensure the student body matches the high caliber of the faculty and enhances the program's competitive standing.

Signature:  _____

Date: Feb. 3, 2026 _____

Signature:  _____

Date: February 3, 2026 _____



Faculty Response to the External Review for the

BACHELOR OF ENGINEERING (HONOURS) -
ARTIFICIAL INTELLIGENCE

Submitted By:

Dr. Anwar Abdalbari, IAT Chair

March 13, 2026

Dr. Scott Nokleby, Interim Dean

March 23, 2026

Introduction

The external reviewers have provided positive feedback on the proposed Artificial Intelligence Engineering program. The external reviewers have made some recommendations to further improve the program. We have addressed all of them and updated the proposal accordingly. Below is a summary of the reviewers' comments and our response.

Summary of Recommendations and Faculty Responses

- *Restate the recommendations summarized in the external reviewers' report and provide the Program's comments and responses*
- *The Dean should then provide summative comments/responses from an overarching Faculty perspective for each recommendation and program response*

Recommendation 1

Program Differentiation. Clearly articulate and communicate the unique identity of the Artificial Intelligence Engineering program to distinguish it from the AI option in Software Engineering. This will ensure clarity for prospective students and strengthen the program's market positioning.

Program's Response

The Software Engineering program does not offer an Artificial Intelligence option or specialization. The proposed Artificial Intelligence Engineering program is therefore a distinct standalone engineering degree rather than a specialization within Software Engineering.

The two programs share a common first-year engineering curriculum, consistent with our standard engineering program structure, which provides foundational knowledge in mathematics, physics, programming, and engineering design.

Beyond the first year, the programs diverge significantly. The Artificial Intelligence Engineering program includes eight core AI-focused courses that are not part of the Software Engineering curriculum. These courses emphasize areas such as machine learning, deep learning architectures, natural language processing, computer vision, generative AI, and AI engineering practices including MLOps.

In contrast, the Software Engineering program focuses more heavily on software systems infrastructure, including operating systems, computer networks, distributed systems, software security, and user interface design.

The Artificial Intelligence Engineering program therefore prepares students specifically for designing, building, and deploying intelligent systems, while the Software Engineering program prepares students primarily for designing large-scale software systems and infrastructure.

Program materials, recruitment communications, and advising will clearly communicate these distinctions to prospective students.

Dean's response

The Dean agrees with the Program's response.

Recommendation 2

Curricular Sequencing and Coherence. Revisit the curriculum structure to introduce core AI concepts earlier in the program while ensuring seamless alignment between newly developed courses and those leveraged from Software Engineering. This will improve student engagement and create a more logical learning progression.

Program's Response

The program appreciates the external reviewers' suggestion regarding the early introduction of AI concepts and the importance of maintaining strong curricular coherence.

The current curriculum was designed intentionally to ensure that students first acquire foundational knowledge in programming, mathematics, statistics, and software engineering, which are essential prerequisites for advanced AI topics such as machine learning, deep learning, and generative AI.

Accordingly, the first year provides common engineering foundations, while the second year introduces key computational and mathematical concepts that support later AI courses.

That said, the program recognizes the value of introducing AI-related exposure earlier in the curriculum to strengthen student engagement and provide early context for later courses. Several adjustments are therefore being considered, including:

- integrating generative AI into ENGR 1200U (Introduction to Programming for Engineers) to develop students' awareness of its capabilities, limitations, and appropriate use in programming early in the program,
- introducing AI-focused second-year courses, such as "Introduction to Data Analytics", and replacing "Principles of Software and Requirements Engineering" with "Foundations of AI Engineering", to distinguish the AI program from Software Engineering earlier in the curriculum, also adding "Bio-Inspired Computing" to replace "Natural Foundations for Information Technology" across the programs,
- replacing "Computer Vision and Robotics" with "Data and Feature Engineering" keeping core AI methodologies (Artificial Intelligence, Machine Learning, Data & Feature Engineering, NLP) in third year,
- renaming "Agent-Based Systems" to "AI Agents and Multi-Agent Systems to better reflect modern developments in agentic AI systems.

The program will ensure that any such changes maintain strong alignment between newly developed AI courses and existing Software Engineering courses that provide essential computational foundations.

Overall, the curriculum will continue to emphasize a progressive learning structure, moving from foundational computational and mathematical principles to advanced AI methods and applications in the upper years.

Dean's response

The Dean agrees with the Program's response. The new program capitalizes on existing courses and supports the Program's consideration of adjustments that provide earlier exposure to AI concepts. Students will now learn the responsible use of AI-assisted programming tools in the beginning of their studies in ENGR 1200U. The proposed updates support a strong progression from foundational knowledge to advanced AI topics, while maintaining alignment with common courses offered in Software Engineering.

Recommendation 3

Faculty Workload and Sustainability. Formally define teaching responsibilities and resource allocations to ensure faculty workloads remain sustainable as new courses are developed. Addressing potential overlaps with other faculties will be essential for the program's long-term operational health.

Program's Response

The program recognizes the importance of ensuring that faculty workload remains sustainable as the Artificial Intelligence Engineering program is implemented. The Faculty has recently strengthened its academic capacity through the hiring of three new faculty members in Software Engineering, with expertise that supports both the existing Software Engineering program and the proposed Artificial Intelligence Engineering program. These hires provide additional instructional and research capacity in areas aligned with artificial intelligence and software systems.

Teaching responsibilities within the Faculty are assigned through established departmental processes that ensure balanced teaching loads and alignment between faculty expertise and course assignments. As the Artificial Intelligence Engineering program develops, newly introduced courses will be integrated into these existing workload planning processes.

The Faculty will also continue to monitor enrollment and instructional needs across both programs. Should demand increase significantly, additional faculty recruitment may be pursued through the University's standard hiring procedures, consistent with past practice.

In addition, the University has established governance structures that review new programs to ensure appropriate differentiation and avoid duplication across faculties, thereby supporting efficient allocation of instructional resources. Collaboration across programs will also occur through multidisciplinary capstone projects, allowing faculty supervision and teaching efforts to be shared across related engineering disciplines where appropriate.

Dean's response

The Faculty will ensure that teaching loads are assigned according to the University's collective agreement, while ensuring delivery of both existing and new courses within the program.

Recommendation 4

Computing Infrastructure and Technical Support. Develop a comprehensive strategy for AI-specific computing infrastructure, specifically ensuring reliable access to high-performance GPU resources. This plan should include the recruitment or allocation of technical personnel dedicated to maintaining these specialized systems.

Program's Response

The program recognizes that access to high-performance computing resources, including GPU-enabled systems, is essential for supporting coursework and research in areas such as machine learning, deep learning, computer vision, and generative AI.

Students in the Artificial Intelligence Engineering program will have access to a combination of:

- existing University high-performance computing resources
- recommended student laptops equipped with GPU capabilities, which will allow students to run AI development environments locally for experimentation and project work
- GPU-enabled laboratory workstations
- cloud-based computing platforms where appropriate for coursework and project work

These resources will support both instructional activities and student projects throughout the program.

The program will ensure that GPU resources remain available and scalable as the program grows. In addition, technical support staff responsible for maintaining computing infrastructure will assist with the deployment and management of AI-related software environments required for teaching and student projects.

Dean's response

The Dean agrees with the Program's response. Note, the Faculty is committed to providing a number of GPU-enabled workstations that will be accessible to students in the program.

Recommendation 5

Support Service Coordination and Literacy. Enhance coordination between academic advising, co-op services, and learning support units to ensure they are equipped with the specific AI literacy required to assist students in this discipline. This integrated approach will improve the overall student experience and operational effectiveness

Program's Response

Students in the Artificial Intelligence Engineering program will be supported through the University's existing advising, co-op, and academic support structures, which already serve students across engineering and computing disciplines.

The program will work closely with these units to ensure that advisors, co-op coordinators, and learning support staff are familiar with the structure and learning objectives of the Artificial Intelligence Engineering program. This will allow them to effectively guide students on matters such as course planning, co-op opportunities, and academic support resources.

In addition, regular communication between the program leadership and student support units will ensure that these services remain informed about developments in the AI curriculum and emerging industry trends relevant to student placements and career pathways.

Dean's response

The Dean agrees with the program's response.

Recommendation 6

Integration of Experiential Facilities. Strengthen the explicit connections between the curriculum and existing engineering and fabrication laboratories to maximize opportunities for applied learning. Formalizing these links will better support the experiential requirements of the Artificial Intelligence Engineering degree.

Program's Response

Experiential learning is an important component of the program. Students will engage in applied learning through several mechanisms, including project-based coursework, laboratory activities within existing engineering courses, and industry-related projects.

The Faculty maintains a number of engineering laboratories and fabrication facilities that support hands-on learning in areas such as embedded systems, robotics, prototyping, and hardware development. These facilities provide opportunities for students to develop and test AI-enabled systems that integrate software, sensors, and hardware platforms. In addition, students in the Artificial Intelligence Engineering program will participate in the co-op program, which provides structured opportunities to apply classroom knowledge in professional settings.

Experiential learning will culminate in the fourth-year capstone design sequence, where students work in multidisciplinary teams to design and implement engineering solutions to real-world problems. Capstone projects may involve collaboration with industry partners or research groups and may integrate artificial intelligence techniques with hardware systems, software platforms, or data-driven applications.

Dean's response

The Dean agrees with the Program's response.

Recommendation 7

Student Recruitment and Financial Support. Consider exploring a suite of dedicated scholarships specifically for the Artificial Intelligence Engineering program to attract and retain top-tier applicants. Providing targeted financial incentives will ensure the student body matches the high caliber of the faculty and enhances the program's competitive standing.

Program's Response

Entrance scholarships and financial awards for incoming students are administered centrally by the University and are available to students across all programs based on academic merit and other criteria. These scholarships provide important financial support for students entering engineering and other disciplines.

While the Faculty does not currently administer program-specific entrance scholarships, the Artificial Intelligence Engineering program will benefit from the University's existing scholarship framework, which supports high-achieving students entering engineering programs.

The program will continue to work with the University's advancement and recruitment offices to promote the program and will explore opportunities for external partnerships or donor-supported scholarships that could further support students in this emerging field.

Dean's response

The Dean agrees with the Program's response.

Suggested Revisions for the Proposal following External Review

- *Program to list all suggested revisions to the proposal*
- *For each suggested revision, the Dean should include a comment indicating whether the revision will proceed. If the revision will not proceed, please indicate a rationale*

Recommendations are incorporated in the revised proposal. Please see 'Summary of changes made to proposal of external report'.



Summary of Changes Made to the Proposal Following External Review

List all revisions to the proposal and appendices, noting the Section number from the document. Include this form with the final proposal.

Recommendation 2 Section Changes

- I) Introduce AI-related modules within ENGR 1200U (Introduction to Programming for Engineers) in Year 1-2 to expose students to basic AI concepts early in the program;
- II) Move "Introduction to Data Analytics" from 2-1 to 2-2;
- III) add "Foundations of AI Engineering" to Year 2-1;
- IV) Replace "Natural Foundations for Information Technology" with "Bio-Inspired Computing" in Year 2-1;
- V) replacing "Principles of Software and Requirements Engineering" with "Introduction to Data Analytics
- VI) Replace "Computer Vision and Robotics" in 3-1 with "Data and Feature Engineering"
- VII) Rename "Agent-Based Systems" to "AI Agents and Multi-Agent Systems" and move from 3-2 to 4-1;
- VIII) Move Foundation Models and Generative AI from 3-2 to 4-1.

ACADEMIC COUNCIL REPORT

SESSION:

Public

☒

Non-Public

☐**ACTION REQUESTED:**

Decision

☐Discussion/Direction
Information☐☒**TO:**

Academic Council

DATE:

May 26, 2026

PRESENTED BY: Les Jacobs, Vice-President, Research & Innovation**SUBJECT:**

Strategic Research Plan Annual Report

BACKGROUND/CONTEXT & RATIONALE:

The Office of the Vice-President, Research and Innovation is pleased to provide Academic Council with the first institutional report card associated with Ontario Tech University's Strategic Research Plan 2025–2030: *Advancing Inclusive Research Excellence*. The report establishes baseline and Year-1 performance measures across key indicators aligned with the university's research priorities, including research funding and intensity, partnerships, student engagement, entrepreneurship and commercialization, and equity, diversity and inclusion initiatives. The results demonstrate encouraging early progress, including increases in total awarded research funding, grant applications, partnerships, graduate enrolment, and student participation in entrepreneurship programming. These outcomes reflect the collective efforts of faculty, staff, students, and institutional partners in advancing Ontario Tech's research mission and strengthening the university's position as a research-intensive institution.

The report card is intended to support evidence-informed institutional planning and decision-making by identifying emerging strengths, trends, and opportunities for further strategic investment and development. While several areas demonstrated notable growth in the first year of implementation, the report also recognizes that many initiatives remain in the early stages of development and that continued efforts will be required to build long-term research capacity and impact. Annual updates to the report card will continue to monitor progress toward the objectives outlined in the Strategic Research Plan and help guide future priorities related to research excellence, collaboration, innovation, and inclusive research practices.

Supporting Reference Materials:

- Strategic Research Plan: Research Metrics Report Card - Year 1



STRATEGIC RESEARCH PLAN

Research Metrics Report Card - Year 1





Introduction

Ontario Tech University's *Strategic Research Plan 2025–2030: Advancing Inclusive Research Excellence* was developed in close collaboration with the Research Committee, Faculty Members and Academic Council to advance inclusive research excellence, reflect the university's research values and principles, and develop strategic attributes in support of Ontario Tech's aspiration to be a world-class research-intensive Canadian university.

To quantify institutional progress and achievements, **ten metrics with key data indicators** were developed in coordination with the Integrated Academic Research Plan. These measures focus on Ontario Tech's research enterprise and provide evidence of progress related to the Strategic Research Priorities. The indicators align with the seven established research priority areas. They are designed to reveal year-over-year accomplishments and areas of growth, supporting the development of a strong foundation of inclusive research excellence and leadership among Canada's smaller research-intensive universities. Collectively, these measures encompass research capacity and funding, scholarly outputs and impacts, partnerships and community engagement, student and trainee participation, equity and inclusion outcomes, and societal and economic contributions.

This report serves as the **first institutional report card**, documenting baseline (FY 2024-25) and first-year (FY 2025-26) measured outcomes following implementation of the Strategic Research Plan. This initial report, together with subsequent annual updates, will inform institutional decision-making related to partnerships, research chairs, strategic investments, challenges, and targeted funding opportunities. The Year-1 results reflect early progress following implementation. Combined, these data provide insight into initial impacts, emerging trends, and areas requiring further strategic attention as the university advances its research mission.

Professor Les Jacobs, PhD, FRSC, ICD.D
Vice-President, Research and Innovation
Ontario Tech University
May 2026



Report Card: Year 1

Metric	FY 2025 (Baseline)	FY 2026
EDI Commitments and Initiatives	Active EDI Sponsorships: 3; \$204,500	Active EDI Sponsorships: 4; \$62,460
	Women Profiled in <i>Women Wednesdays</i>: 65	Women Profiled in <i>Women Wednesdays</i>: 43
	Fireside Chats, Workshops, Trainings and other events hosted by Women in Research Council: 9	Fireside Chats, Workshops, Trainings and other events hosted by Women in Research Council: 10
	Women in Research Council LinkedIn Followers: 1,066	Women in Research Council LinkedIn Followers: 1,337
Entrepreneurship and Commercialization	Active Start-ups: 21 Active Patents: 17 Engaged Students: 945	Active Start-ups: 21 Active Patents: 15 Engaged Students: 1,349
External Research Partnerships and Sponsorships	Sponsors: 97 Active: 66 (68.04%) Partnerships: 45 (46.39%)	Sponsors: 119 Active: 60 (50.42%) Partnerships: 52 (43.98%)
Research Entities and Chairs	Total Chairs: 30 CRC: 8 IRC: 2 Endowed: 3 Internal: 17 Research Entities: 10 Institutes: 4 Centres: 3 Joint Research Centres: 3	Total Chairs: 28 CRC: 8 IRC: 1 Endowed: 3 Internal: 16 Research Entities: 11 Institutes: 5 Centres: 3 Joint Research Centres: 3 <i>*IRC program has been dissolved*</i>

Metric	FY 2025 (Baseline)	FY 2026
Graduate and Undergraduate Research Funding/Financial Support	URSA: 32 students, \$298,300 URSF: 54 students, \$299,717 STAR: 12 students, \$113,300	URSA: 30 students, \$292,500 URSF: <i>*numbers not available for 2026*</i> STAR: 12, \$118,300
	External Scholarships: 74; \$1,221,496 Research-based Master's: 26; \$367,167 PhD: 48; \$854,330	External Scholarships: 82; \$1,458,667 Research-based Master's: 29; \$420,667 PhD: 53; \$1,038,000
	Internal Scholarships: 186; \$843,478 Research-based Master's: 79; \$150,948 PhD: 107; \$692,530	Internal Scholarships: 179; \$869,047 Research-based Master's: 72; \$147,493 PhD: 107; \$721,554
	Graduate Research Assistanceships: 423; \$5,219,339 Research-based Master's: 234; \$2,427,761 PhD: 189; \$2,791,578	Graduate Research Assistanceships: 421; \$4,966,086 Research-based Master's: 231; \$2,486,803 PhD: 190; \$2,479,283
	Other Funding Sources: 65; \$115,923 Research-based Master's: 44; \$74,729 PhD: 21; \$41,193	Other Funding Sources: 55; \$95,242 Research-based Master's: 42; \$57,501 PhD: 12, \$37,741
	TA/RAships: 395; \$4,515,413 Research-based Master's: 255; \$2,385,847 PhD: 140; \$1,661,566	TA/RAships: 391; 5,522,164 Research-based Master's: 267; \$3,594,506 PhD: 124; \$1,927,658: 391; 5,522,164 Research-based Master's: 267; \$3,594,506 PhD: 124; \$1,927,658

Metric	FY 2025 (Baseline)	FY 2026
Graduate Student Enrolment	Enrolled Students: 12,451 Graduate: 9.49% (1,182) Traditional Graduate Programs: 546 (46.19%) Masters: 326 PhD: 220 Professional Graduate Programs: 636 (53.81%) Graduate Diploma: 42 Masters: 549 PhD: 45	Enrolled Students: 13,855 Graduate: 10.05% (1,393) Traditional Graduate Programs: 534 (38.33%) Masters: 317 PhD: 217 Professional Graduate Programs: 859 (61.67%) Graduate Diploma: 15 Masters: 793 PhD: 51
Research Intensity and Ranking	Research Intensity: Total Awarded: \$66,460 (\$14,621,315/220) Disbursement: \$89,266 (\$19,638,519/220)	Research Intensity: Total Awarded: \$80,218 (\$17,728,299/221) Disbursement: \$91,657 (\$20,256,289/221)
	(2024-25 Academic Year) Research Infosource: Canadian Undergraduate: #1 Research Universities: #37 Maclean's Primarily Undergraduate Ranking: Faculty Awards: #17 Total Research Dollars: #2	(2025-26 Academic Year) Research Infosource: Canadian Undergraduate: #1 Research Universities: #34 Maclean's Primarily Undergraduate Ranking: Faculty Awards: #17 Total Research Dollars: #1
Postdoctoral Fellowships	Post Doc Fellowships: 21	Post Doc Fellowships: 22

Metric	FY 2025 (Baseline)	FY 2026
Ontario Tech Research Funding Awarded and Major Awards Received	Project Count : 325 Active : 143 Awarded : 1 Project Total Awarded: \$14,621,315 Cash: \$13,465,078 In Kind: \$1,156,237 Projects Awarded \$1M: 1 Projects Awarded \$500K: 2 Projects Awarded \$250K: 9	Project Count : 360 Active : 84 Awarded : 35 Project Total Awarded: \$17,728,299 Cash: \$16,794,190 In Kind: \$934,109 Projects Awarded \$1M: 2 Projects Awarded \$500K: 4 Projects Awarded \$250K: 13
	Grant Applications : 399 Active : 185 Awarded : 2 Disbursements: \$19,638,519 Cash: \$18,231,558 In Kind: \$1,406,961 Disb. \$1M: 1 Disb. \$500K: 1 Disb. 250K: 10	Grant Applications : 493 Active : 111 Awarded : 49 Disbursements: \$20,256,289 Cash: \$19,086,408 In Kind: \$1,169,881 Disb. \$1M: 1 Disb. \$500K: 2 Disb. 250K: 14
Local Partnerships and Opportunities	Durham Partners (External Only): 3 Participating Students: 40 <i>*Follows the academic year</i>	<i>* we are one year behind on Experiential Learning data as it follows the Academic year*</i>
	Mitacs: Applications: 17 Actives: 14 Project Total: \$373,000 Disbursement: \$829,000	Mitacs: Application: 24 Awarded: 12 Project Total: \$537,500 Disbursements: \$785,000

Closing Statement

Within the first year of implementing the Strategic Research plan, several research priority areas indicated early growth.

EDI commitments and initiatives showed broader participation, reach and commitment

- Sponsorships increased (4; 33.3%)
- Events increased (10; 11.1%)
- LinkedIn followers increased (1,337, 25.4%)

Entrepreneurship and commercialization demonstrated successful programming and consistency in venture outputs

- Higher number of students engaged (1,337; 42.8%)
- maintained active startups (21)

Student enrollment revealed growth across the board but especially at the graduate and primarily professional programs

- Total enrollment increased (13,855; 11.3%)
- Graduate student enrolment increased (1,393; 17.8%)
 - Professional program enrollment increased (859; 35.9%)

Overall, there were volume increases and funding success. A result of multiple, allied factors supporting one another to improve organizational outcomes

- Project count increased (360; 10.8%)
- Grant applications increased (493; 23.6%)
- Sponsorships increased (119; 22.7%)
- Partnerships increased (57; 15.6%)
- Research intensity increased (\$80,218; 20.7% | \$91,657; 2.7%)
- Total awarded funds increased (\$17.73M; 21.2%)
- Disbursements increased (\$20.26M; 3.2%)

The decrease in EDI initiative awards is due to a pilot program in 2025, that did not extend into 2026. Year-1 introduced a new, internal grant focused on building EDI knowledge in Research. There were modest increases, decreases or stagnation across other metrics. While some areas have revealed success from baseline, the strategic plan has only been in place for one year, with many efforts still underway to supporting the development of a strong foundation of inclusive research excellence and growth towards leadership among Canada's smaller research-intensive universities.

Appendix

Metric Area	Source	Operational Definitions
EDI commitment and initiatives	ORS - RBS	Count of OTU - Building EDI Knowledge in Research Program & awarded fund and any other awards related to EDI <i>FY determined by competition date from Romeo. If competition date is not documented, Sponsor Start, Project Start, or Entry date are used.</i>
	Women in Research Council - Research Associate	Number of women profiled in <i>Women's Wednesdays</i> Number of fireside chats, workshops, trainings & other events hosted by Women in Research Council Count of LinkedIn Follower as of first day of fiscal year
Entrepreneurship and Commercialization	ORS - IP Officer & Brilliant Catalyst	Number of unique Active Start-Ups. Number of unique active Patents. Number of unique students engaged in entrepreneurship programming

External Research partnerships and sponsorships	ORS - RBA	Count of Agency ID where the competition date falls within specified fiscal year. <i>If competition date is not documented, Sponsor Start, Project Start, or Entry date are used.</i> Active: Sponsor Status = 'Active' Partnerships: Count of Agency ID where Program Type = 'Partnerships'
Graduate and Undergraduate Research Funding/Financial Support	SGPS, SAFA, Registrar	Number and amount of External Scholarship, Internal Scholarship, TA/RAships, and other sources of funding, for Research-based Masters and PhD students annually.
	ORS - RBA	Count of each student who received specified award and total of funds awarded to students in identified fiscal year <i>FY determined by competition date from Romeo. If competition date is not documented, Sponsor Start, Project Start, or Entry date are used.</i>

Graduate Student Enrolment	OIRA - Official Fall University Statistical and Enrolment Report (USER)	Number and proportion of official student enrolment as reported by Ontario Tech University to the Ministry of Colleges and Universities. Where appropriate, student mix will be provided by level (i.e. UG, Masters, PhD) as well as program of study (research based, course-based, etc.).
Research Intensity & Ranking	ORS - RBA & HR	Research Intensity: Amount of Research Funding per faculty member <i>TTT provided by HR</i> Total Awards: Total funding received by project in specified year for entire lifespan, whole award, not broken down by disbursement Disbursement: Amount provided to project for specified FY, not the project total
	Other - MacLean's and Research Infosource	Year over year in research rankings

Ontario Tech Research Funding Awarded & Major Awards Received	ORS - RBA	Project Count: Romeo File number Project Total Awards: Total funding received by project in specified year for entire lifespan, <i>whole award, not broken down by disbursement</i> <i>FY determined by competition date from Romeo. If competition date is not filled in, Sponsor Start, Project Start, or Entry date are used.</i> <i>**These amounts and counts include projects & applications to OTU funding. These are excluded in the Factbook data.</i>

	ORS - RBA	Grant Application: Sponsorship application count (row under Project Sponsor Info.) Disbursement: Amount provided to project for specified FY, <i>not the project total</i> <i>FY determined by competition date from Romeo. If competition date is not filled in, Sponsor Start, Project Start, or Entry date are used.</i> <i>**These amounts and counts include projects & applications to OTU funding. These are excluded in the Factbook data.</i>
Local Partnerships and Opportunities	OIRA - Partnership Data - Research Office & Experiential Learning Database (Undergraduate data)	Distinct Count of active external partners within the Durham/Northumberland region supporting Undergraduate Research (i.e. students have actively participated in a research learning experience with them) included, but not limited to, Research Assistants and Research Practicums. <i>** one year delay on experiential Learning data as it follows the academic year**</i>

	ORS - RBA	Count of each grant application and awarded fund when sponsor is Mitacs. Sum of fiscal year disbursements and funds for entire project life cycle when sponsor is Mitacs
Postdoctoral Fellowships	OIRA - Postdoctoral Fellowships: Official Employee <i>Counts as of October 1 of each year</i>	Count of unique postdoctoral students <i>**Counts as of October 1 of each year**</i>
Research Entities and Chairs - IARP reporting	ORS	Count of Research Chairs, Institutes, Units, and Centres, by fiscal year, as provided by Office of Research Services. Includes internal, CRC, and industry chairs.

ACADEMIC COUNCIL REPORT

ACTION REQUESTED:

Recommendation	☐
Decision	☒
Discussion/Direction	☐
Information	☐

DATE: May 26, 2026

FROM: Joe Stokes, University Registrar and AVP, International

SUBJECT: Revised Examination and Grading Policy

COMMITTEE MANDATE:

Under the Policy Framework and the University's Act and By-laws, Academic Council is responsible for approving Academic Policy and to make recommendations to the Board on "the establishment and terms of reference of committees to exercise the Academic Council's delegated authority" under By-law no. 2. The Undergraduate and Graduates Studies Committees have a mandate of maintaining the academic standards set by Academic Council and serve as the deliberative bodies for academic policy instruments. We present the attached amended Examination and Grading Policy for approval by Academic Council.

MOTION FOR CONSIDERATION:

That Academic Council hereby approves the amended Examination and Grading Policy.

BACKGROUND/CONTEXT & RATIONALE:

Feedback received from multiple faculties as well as the Academic Advising unit indicates that the number of requests to make up or further defer deferred examinations is on the rise. This has numerous implications including but not limited to the instructor having to create, at minimum, three unique versions of the examination, and students pursuing subsequent related academic content without having fully completed the prerequisite content.

Reviewing data dating back to fall 2023 reveals that there is a significant volume of repeatedly deferred examinations. Specifically: 8 in the Faculty of Business and Information Technology, 66 in the Faculty of Engineering and Applied Science and 37 in the Faculty of Science.

A review of the provincial landscape, via a survey of Ontario University Registrars, indicates that several institutions, including Lakehead University and McMaster University have outright discontinued the practice of offering multiple deferred examinations.

To this end, the following proposed revisions were made to our Examination and Grading Policy.

- Updated section 13.2: In most circumstances, a student who misses a deferred examination will not be permitted to make it up. Students who are unable to write their deferred examination due to a transitory illness or injury should submit a Consideration for Late Withdrawal. The university reserves the right to de-register the student from future academic terms until which time the deferred examination has been written. Accommodation requests made on the grounds of a disability or other protected grounds will be assessed in good faith and may result in the application of an alternative accommodation.
- Updated section 2 to reflect the definition of a transitory illness/injury.

RESOURCES REQUIRED:

No additional resource requirements.

CONSULTATION AND APPROVAL:

- Online Consultation: March 9, 2026 – March 13, 2026
- Undergraduate Studies Committee (Deliberation): April 21, 2026
- Graduate Studies Committee (Deliberation): April 28, 2026
- Academic Council for approval: May 26, 2026

NEXT STEPS:

Pending the approval of Academic Council, this policy amendment will become effective immediately.

SUPPORTING REFERENCE MATERIALS:

- ACD 1506 Examination and Grading Policy Tracked Changes
ACD 1506 Examination and Grading Policy (Clean Copy)



Classification Number	ACD 1506
Framework Category	Academic
Approving Authority	Academic Council
Policy Owner	Registrar
Approval Date	~~June 28, 2022~~ TBD
Review Date	~~June 2025~~ May 2029
Supersedes	Editorial Amendments, February 18, 2020; Editorial Amendments, November 26, 2019; Examination and Grading Policy, January 17, 2017; Academic Regulations, Graduate Academic Calendar 2019-2020; Undergraduate Academic Calendar, Section 5.25, June 2015; Scheduling Guidelines and Protocols, Section 2, May 2012

Examination and Grading Policy

PURPOSE

1. The purpose of this policy is to provide a framework to guide the effective administration and scheduling of in-term course work and examinations and the submission and release of final grades.

DEFINITIONS

2. For the purposes of this Policy the following definitions apply:

“Examination” means a form of testing intended to assess the level of students’ knowledge, ability, skills, comprehension, application, analysis, and/or synthesis of the subject matter in a course of study. This includes, but is not limited to in-person, online, take-home, practical, and laboratory Examinations.

“Deferred Examination” means an Examination written outside of the originally scheduled day and/or time.

“Final Examination Period” means the period of calendar days stated in the Academic Calendar that is set aside in each Semester and/or Session for the administration of Final Examinations.

“Final Examination” means an Examination scheduled during the Final Examination Period.

“In-term Course Work” means any course work assigned during the Semester or Session.

“In-term Examinations” means an Examination held during the Semester or Session.

“Semester” means sixty days of lectures and a Final Examination period.

“Session” means a period of approximately six consecutive weeks in the Summer Semester consisting of 30 days of lectures and a Final Examination period. The first half of Summer Semester is designated as Spring Session; the second half is designated as Summer Session.

“Study Break” means a period between the last day of lectures and the first day of the Final Examination Period.

“Transitory Illness/Injury” means a temporary health condition that lasts for a short period of time – ranging from minutes to days.

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SCOPE AND AUTHORITY

3. This Policy applies to all In-Term Course Work and Examinations.
4. This Policy applies to the submission and release of final grades.
5. This Policy does not apply to PhD candidacy exams, master’s and doctoral thesis defense examinations. For more information regarding these types of examinations, please refer to the University's policy library.
6. The Registrar, or successor thereof, is the Policy Owner and is responsible for overseeing the implementation, administration and interpretation of this Policy.

POLICY

7. General

- 7.1. All Examinations, will be scheduled and administered in accordance with this Policy, the Procedures for Final Examination Administration, the Procedures for Consideration of Missed In-term Course Work and Examinations, and all other applicable University policies and procedures.
- 7.2. Students are responsible for all material covered in a given course and In-term and Final Examinations may be used to assess course material that is delivered both directly (e.g. during a scheduled class) or indirectly (e.g. additional reading assignments).
- 7.3. No Examinations or lectures may be administered during the Fall or Winter study week, or the Study Break before the Final Examination Period. In addition, students may not be required to present, submit term papers, reports, or other assigned material during these periods.

8. In-term Examination Scheduling

- 8.1. In-term Examinations will normally be held during regularly scheduled class times, though they may be scheduled on any calendar day of the Semester or Session.
- 8.2. In-term Examinations held outside of the regularly scheduled class times will require the approval of the Faculty and must be noted in the course syllabus prior to the start of the Semester or Session to ensure students have reasonable advance warning of such scheduling.
- 8.3. The total value of any In-term Examination given in the last five days of classes in a Semester or Session must be no more than 15 percent of the final mark of the course.

9. Final Examination Scheduling

- 9.1. The Office of the Registrar has authority for the scheduling of Final Examinations.
- 9.2. Final Examinations will only be scheduled during the Final Examination Period and will be scheduled in accordance with the Procedures for Final Examination Administration.
- 9.3. Scheduling of Final Examinations will be conducted to eliminate conflicts and to minimize the instances of consecutive examinations.
- 9.4. Normally, the Final Examination schedule will be published no later than six weeks prior to the first day of the Final Examination Period for a Semester. Normally, once published, there will be no scheduling changes.
- 9.5. Normally, the Final Examination schedule will be published no later than three weeks prior to the first day of the Final Examination Period for a Session. Normally, once published, there will be no scheduling changes.
- 9.6. **Warning about other commitments:** Final Examinations may be scheduled at any time during the Final Examination Period. Students are expected to avoid making travel or other professional or personal commitments during this time.
 - a) As instructors are not required to be present at their Final Examination, they should be available should an emergency occur.
- 9.7. Take-home Final Examination deadlines must fall within the Final Examination Period. The take-home Final Examination deadline must be noted in the course syllabus prior to the start of the Semester or Session.

10. Deferred Examination Scheduling

- 10.1. Deferred Examinations will normally be scheduled no later than the end of the first week of classes in the following Semester or Session.

11. Students Requiring Academic Accommodations

- 11.1. Students with disabilities who are registered with Student Accessibility Services will receive accommodations for all In-term Course Work and Examinations in accordance with their individual accommodation plan.

12. Missed In-Term Course Work and Examinations

- 12.1. **Grounds for Consideration:** The following are grounds for which a student may apply and be considered for approval to make up missed In-term Course Work or Examination.
 - a) Religious Observance: Students who are unable to submit In-term Course Work or write an Examination due to religious obligations.
 - b) Extenuating Circumstances: Students who are unable to submit In-term Course Work or write an Examination as a result of extenuating circumstances beyond their control. Extenuating circumstances that may be considered include:
 - Significant physical or psychological event or illness that is debilitating to the student's academic performance;
 - Severe family emergency;

- Other compelling personal reason.
- c) Competing Academic Conflict: Students who are unable to write an Examination as a result of a competing academic conflict. The following competing academic conflicts may be considered:
 - Three Final Examinations scheduled within a 24-hour period from the start time of the first Final Examination to the end time of the third Final Examination. The middle examination of the three will be the one considered;
 - An In-term Examination that is scheduled outside of the regular class time and which conflicts with another scheduled class or In-term Examination.

12.2. Requests for Consideration

- a) Requests for consideration of missed In-term Course Work and Examinations must be made in accordance with the Procedures for Consideration of Missed In-term Course Work and Examinations. Considerations will only be granted where sufficient documentation is submitted.

12.3. Options for Make Up Work

- a) Students who are unable to submit In-term Course Work or attend an Examination may be required to make up the work in one of the following ways, at the discretion of the Faculty responsible for administering the course:
 - Reweighting of the value of other course components;
 - Deferred Examination; or
 - Other such make up work as determined by the responsible Faculty.

13. Failure to Write a Deferred Examination

- 13.1. A student who is granted a Deferred Examination to make up a missed Examination will receive a grade of zero if they do not write the Deferred Examination on the scheduled deferred examination date.

- 13.2. ~~A request to make up a missed Deferred Examination will only be considered where the student can demonstrate a need based on one of the acceptable grounds under this Policy. In most circumstances, a student who misses a deferred examination will not be permitted to make it up. Students who are unable to write their deferred examination due to a transitory illness or injury should submit a Consideration for Late Withdrawal. The university reserves the right to de-register the student from future academic terms until which time the deferred examination has been written. Accommodation requests made on the grounds of a disability or other protected grounds will be assessed in good faith and may result in the application of an alternative accommodation.~~

14. Supplemental Examinations for Graduate Students

- 14.1. In some circumstances, graduate students may be allowed to write one supplemental examination.
- 14.2. The mark from a supplemental examination may replace or otherwise augment a mark previously obtained in an examination in the same course.
- 14.3. Students should contact their graduate program director for more information concerning supplemental examinations.

15. Final Grade Deadline and Submission

- 15.1. The submission deadline for Semester final grades is five calendar days after the last scheduled Final Examination in the Final Examination Period. Grades must be submitted to the Office of the Registrar by 10:00 a.m. on the fifth calendar day.
- 15.2. The submission deadline for Session final grades is four calendar days after the last scheduled Final Examination in the Final Examination Period. Grades must be submitted to the Office of the Registrar by 10:00 a.m. on the fourth calendar day.
- 15.3. Final grades will be posted by the Office of the Registrar and will normally appear on a student's transcript within five calendar days following the grade submission deadline.
- 15.4. Course instructors may not post and/or release final grades to students prior to the posting of final grades by the Office of the Registrar.
 - a) For courses that do not include a Final Examination, instructors must withhold the component grade for a terminal piece of coursework until final grades have been released by the Office of the Registrar.

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- 16.1. The submission deadline for Semester final grades of a Deferred Examination is five calendar days after the scheduled Deferred Examination. Grades must be submitted to the Office of the Registrar by 10:00 a.m. on the fifth calendar day.
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17. Retention and Access to Final Examinations

- 17.1. Final Examination scripts are the property of the University and are retained in accordance with the University Records Retention and Classification Schedule.
- 17.2. A student has the right to view their Final Examination script and associated grade.

MONITORING AND REVIEW

- 18. This policy will be reviewed as necessary and at least every three years. The Registrar, or delegate thereof, is responsible to monitor and review this Policy.

RELEVANT LEGISLATION

- 19. This section intentionally left blank.

RELATED POLICIES, PROCEDURES & DOCUMENTS

- 20.** Academic Staff Responsibilities with Regard to Students
Graduate Academic Calendar
Final Examination Administration Procedures
Procedures for Consideration of Missed In-term Course Work and Examinations
Records Classification and Retention Schedule
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Classification Number	ACD 1506
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Policy Owner	Registrar
Approval Date	TBD
Review Date	May 2029
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RELEVANT LEGISLATION

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RELATED POLICIES, PROCEDURES & DOCUMENTS

- 20.** Academic Staff Responsibilities with Regard to Students
- Graduate Academic Calendar
 - Final Examination Administration Procedures
 - Procedures for Consideration of Missed In-term Course Work and Examinations
 - Records Classification and Retention Schedule
 - Undergraduate Academic Calendar, as amended
 - Administrative Guidelines for Determining the Academic Schedule
 - Doctoral Candidacy Examination Policy
 - Thesis Oral Examination for Master's and Doctoral Candidates Policy

ACADEMIC COUNCIL

Minutes of the Public Session of the April 28, 2026, Meeting via Videoconference 2:30 p.m. - 4:15 p.m.

Academic Council Committee Agendas, Materials and Minutes 2025-2026

Present:

Steven Murphy (Chair)
Asifa Aamir
Scott Aquanno
JoAnne Arcand
Rachel Ariss
Laura Banks
Ahmad Barari
Wendy Barber
Mihai Beligan
Rupinder Brar
Toba Bryant
Krystina Clarke

Amanda Cooper
Catherine Davidson
Ana Duff
Mikael Eklund
Shanti Fernando
Mitch Frazer
Jessica Hogue
Mehdi Hossein-Nejad
Brenda Jacobs
Les Jacobs
Lori Livingston
Janet McCabe

Carolyn McGregor
Thomas McMorrow
Pejman Mirza-Babaei
Fedor Naumkin
Gabby Resch
Carol Rodgers
Denina Simmons
Gillian Slade
Joe Stokes
Dwight Thompson
Shannon Vettor
Ken Wilson

Regrets:

Mary Bluechardt
Shahram Heydari
Sayyed Ali Hosseini

Venuga Kariharan
Hossam Kishawy (on leave)
Scott Nokleby

Aliza Rizwan
Robyn Ruttenberg-Rozen
Jemma Tam

Staff and Guests:

Kirstie Ayotte
Nicola Crow
Sandra Grouette
(Secretary)

Randy Fortier
Krista Hester
Jennifer MacInnis
Brad MacIsaac

Christopher O'Connor
Sarah Thrush

1. Call to Order and Land Acknowledgement

The Chair called the Public Session of the Academic Council (AC) Meeting to order at 2:30 p.m. and C. McGregor provided their personal Land Acknowledgement.

2. Agenda (M)

Upon a request from a Member, Agenda item 11.4 was removed from the Consent Agenda for discussion.

Some Members commented on and enquired about the process for submitting and reviewing agenda item requests including opportunities for dialogue on AI initiatives. The Chair reiterated the process for establishing Academic Council agendas and noted that AI specific agenda items that are within Academic Council's purview will be brought forward at the appropriate time.

Upon a motion duly made by G. Resch and seconded by C. McGregor, the Agenda was approved as amended, including approving and receiving the Consent Agenda and its contents as amended.

Six (6) Abstentions

3. Chair's Remarks

The Chair provided institutional updates, including the preparations for June's Convocation Ceremonies.

The Chair also acknowledged the recent announcement of the Provost's decision to step down from the role and extended sincere appreciation for their leadership and many contributions to the University. Academic Council Members also expressed their appreciation and gratitude to the Provost, including recognizing their mentorship and support. Members were advised that the call for expressions of interest to serve on the Provost and Vice-President, Academic Search Advisory Committee has been released.

3.1 2026 Honorary Degree Recipients (I)

The Chair announced the 2026 Honorary Degree recipients as follows:

- Tabatha Bull, recognized for leadership in economic reconciliation and Indigenous entrepreneurship;
- Mark and Vanessa Mulroney, recognized for contributions to business, philanthropy, and community development;
- Ralph Lean, recognized for service to Canadian legal, corporate, and educational communities;
- Nitin Jain, recognized for leadership in Canada's health and seniors' sectors; and
- Nick Eaves, recognized for leadership and community engagement through sport.

4. Inquiries and Communications

None

5. Provost's Remarks

5.1 Senior Academic Administrator Search Update (I)

The Provost provided an update on the search process for the next Dean of the Faculty of Social Science and Humanities, including community consultation activities and survey engagement opportunities.

5.2 Teaching Award Recipients (I)

The Provost recognized and congratulated the recipients of the 2026 Celebrate Teaching! Awards and thanked faculty, instructors, teaching assistants, and staff for their contributions to teaching, research, and student success throughout the academic year. She invited Members to join her in celebrating the following major award recipients' achievements:

- Natalie Rajack (FSSH) - Teaching Assistant Award,
- Shannon Vettor (FSSH) - Tim McTiernan Student Mentorship Award,
- Eric Rapos (FSci) - Learning Reimagined Award,
- Brandon Carson (FEEd) - Open Education Award,
- Laura Morrison (FEEd) - Early Career Teaching Award, and
- Paula Di Cato (FSci) - Award for Excellence in Teaching.

Congratulations were also extended to all nominees.

6. 2026 - 2029 Budget* (I)

L. Livingston, S. Thrush, and B. MacIsaac, provided a high-level overview of the University's 2026-2029 multi-year operating budget, including enrollment projections, and long-term financial planning priorities. During the presentation, the impact of the recent provincial funding announcement, projected tuition and enrollment growth, investments in student support and instructional resources, and planned capital and infrastructure initiatives were highlighted.

Key updates were also provided on plans for future campus development, student housing projects, renewal of academic and student engagement spaces, and continued strategic investments intended to support institutional growth, operational sustainability, and evolving teaching and learning needs. It was emphasized that the budget was developed within a context of this being a defining moment for the University as the institution positions itself to manage future growth and long-term financial stability, amidst ongoing economic and geopolitical uncertainty.

In response to questions regarding investments in AI initiatives, Banner transformation projects, student financial supports, graduate student funding, and future campus expansion planning, B. MacIsaac advised that the Banner transformation is part of a previously approved multi-year initiative, with separate funding allocated for AI pilot projects and future strategic planning. He also noted that the budget includes enhanced financial aid and graduate student support measures, and that future campus planning and space allocation will be guided through consultation with faculties and alignment with enrollment growth, academic priorities, and future teaching and research needs.

During the discussion, it was also noted that dedicated funding has been allocated for academic priorities and strategic initiatives, while future infrastructure, staffing, and capital requirements will continue to be assessed and aligned with institutional priorities. With respect to EDGE at Ontario Tech, it was confirmed that it was operating under a different model from Ontario Tech Talent with limited start-up funding currently budgeted.

S. Thrush and B. MacIsaac further advised that staffing and resource planning considers a range of institutional and program-specific factors beyond direct enrollment ratios. It was also clarified that the 2026 budget for staffing allocations have focused primarily on faculty and then frontline and support positions.

7. Undergraduate Studies Committee

R. Fortier presented the March Undergraduate Studies Committee (USC) report in M. Bluehardt's absence. He shared that USC reviewed and approved a recent minor program adjustment included in the Consent Agenda, highlighting the importance of responsiveness to student needs and collaboration between Faculties and the Cooperative Education Program in supporting student success. A Member commented on April's USC Meeting where USC discussed proposed changes to the Institutional Quality Assurance Process (IQAP) Policy and associated Procedures.

8. Graduate Studies Committee

There was no report as the Graduate Studies Committee did not meet in March.

9. Governance & Nominations Committee

9.1 2026 Nominations and Election Results Update* (M)

L. Livingston reported that the Governance & Nominations Committee (GNC) met on April 21. She advised that the 2026 Election process is expected to conclude in June, including expressions of interest for applicable positions. It was noted that all but one teaching staff position on Academic Council will be filled through the 2026 Academic Council election process.

The strong level of participation in the election process overall was acknowledged, with nearly all teaching staff positions successfully filled. The importance of volunteer participation in Academic Council governance activities was also noted along with the contributions of individuals standing for election. In response to enquiries on the status of vacant positions within specific Faculties, it was confirmed that through the 2026 Elections, there was one vacant teaching staff position within the Faculty of Social Science and Humanities due to a limited number of nominations received.

Upon a motion duly made by K. Wilson and seconded by C. McGregor, that pursuant to the recommendation of the Governance & Nominations Committee, Academic Council hereby approves the following appointments to the Academic Council and its Committees:

Teaching Staff positions on Academic Council for the term of September 1, 2026 to August 31, 2029:

- *Frazer Faculty of Education: Wendy Barber*
- *Faculty of Health Sciences: Ginny Brunton*
- *Faculty of Science: Denina Simmons*
- *Faculty of Science: Eric Rapos*
- *Faculty of Social Science and Humanities: Shannon Vettor*
- *Faculty at Large: Andrew Hogue*
- *Faculty at Large: Atef Mohany*
- *Faculty at Large: Amirkianoosh Kiani*
- *Faculty at Large: Robert Bailey*
- *Faculty at Large: Natalie Oman*

Teaching Staff positions on the Academic Appeals Committee for the term of September 1, 2026 to August 31, 2029:

- *Pariss Garramone*
- *Atef Mohany*

9.2 Academic Council Meeting Format* (M)

L. Livingston shared the GNC's recommendation to increase in-person Academic Council meetings to strengthen governance, collegiality, and networking opportunities. She advised that GNC was proposing that starting in 2026-2027, Academic Council would meet in-person except for virtual meetings in January and February, with the option for a virtual meeting in March if there is inclement weather. She noted the possibility of hosting meetings at the North and Downtown campuses, subject to space availability and logistical considerations. L. Livingston also reported that a phone-in option would continue to be available for Members facing emergency situations that prevent in-person attendance.

The ensuing discussion included coordinating teaching schedules with meeting times, balancing meeting locations across campuses, and maintaining accessible participation while supporting

collegial engagement through in-person meetings, such as offering a hybrid option. In response, it was noted that efforts will continue to coordinate teaching schedules as much as possible, a teleconference option rather than a hybrid option, will continue to be available to only Academic Council Members due to logistical considerations, with public attendees able to attend in-person at the designated meeting locations, subject to space availability.

Upon a motion duly made by L. Banks and seconded by L. Livingston, that pursuant to the recommendation of the Governance & Nominations Committee, Academic Council hereby approves a change to its meeting format beginning in the 2026-2027 Academic Year, whereby meetings will be held in person from September to June, except for virtual meetings in January and February, with the option of a virtual meeting in March if there are inclement weather conditions.

10. Research Committee

10.1 Centre of Police Science, Education and Training* (M)

L. Jacobs introduced the proposal to establish the Centre of Police Science, Education and Training as an interdisciplinary initiative involving faculty members from all six Faculties. He outlined that the proposed Centre was an unique university-based initiative focused on advancing research, partnerships, student learning opportunities, and professional education related to policing, public safety, and emerging technologies within the sector.

Members asked questions regarding startup funding, long-term institutional support, and oversight processes associated with the proposed Centre of Police Science, Education and Training. The ensuing discussion focused on how future funding and resource allocations for research centres may be addressed following Board approval, as well as clarification regarding faculty participation and credential review processes connected to the proposal.

L. Jacobs noted that the proposed Centre had already secured external start-up funding, which could be leveraged to support future funding opportunities and matching arrangements. He also shared that the University also contributes indirectly through existing funding mechanisms and supports. L. Jacobs further clarified that specific University funding commitments are typically not finalized until proposals have completed the institutional approval process, including Board approval.

Upon a motion duly made by K. Wilson and seconded by M. Ekland, that pursuant to the recommendation of the Research Committee, Academic Council hereby recommends the establishment of the Centre of Police Science, Education, and Training for approval by the Board of Governors, as presented.

11. Consent Agenda:

The Chair confirmed that contents of the Consent Agenda were approved and received under Agenda Item # 2 (save for Item #11.4).

11.1 Public Minutes of the March 24, 2026 Meeting* (M)

11.2 Minor Program Adjustments from USC* (I):

- (i) Faculty of Social Science and Humanities: Co-operative Education in the Faculty of Social Science and Humanities* (I)**

11.3 Approved Exception to Residency Requirement:

11.3.1 Faculty of Social Sciences and Humanities* (I)

11.3.2 Faculty of Business and Information Technology* (I)

Item pulled from Consent Agenda:

11.4 Conferral of Posthumous Degree* (M)

C. McGregor advised that following the posthumous credentialing process, and in keeping with the family's wishes for privacy, this item was purposely placed in the Consent Agenda. The impact of the student's passing on the Faculty and program community was acknowledged, and Academic Council observed a moment of silence in remembrance of the student.

Upon motion duly made by C. McGregor and seconded by L. Jacobs, that pursuant to the recommendation of the Registrar, Academic Council hereby authorizes the conferral of a posthumous degree to [redacted].¹

12. Termination

There being no other business, and upon a motion to terminate by C. McGregor, the AC Meeting terminated at 4:15 p.m.

Sandra Grouette, Assistant University Secretary

¹ Out of respect for the family's wishes, the student's name has been redacted.

ACADEMIC COUNCIL REPORT

SESSION:

Public
Non-Public

☒
☐**ACTION REQUESTED:**

Decision
Discussion/Direction
Information

☒
☐
☐

TO: Academic Council

DATE: May 26, 2026

FROM: Joe Stokes, Registrar

SUBJECT: Conferral of Degrees – Spring/Summer 2026

MANDATE:

Article 1.1(a)(g) of By-law No. 2 provides that Academic Council has the authority to establish the procedures necessary to grant bachelor's degrees, master's degrees, doctoral degrees, honorary degrees and all other degrees, certificates, and diplomas in any and all branches of learning.

MOTION for CONSIDERATION:

That pursuant to the recommendations of each Faculty and the Registrar, Academic Council hereby confirms the eligibility for graduation of those students who have fulfilled all degree requirements at the end of the Spring/Summer 2026 term and recommends the conferral of degrees by the Chancellor.

ACADEMIC COUNCIL REPORT

SESSION:

Public ☒
Non-Public ☐

ACTION REQUESTED:

Decision ☐
Discussion/Direction ☐
Information ☒

TO: Academic Council

DATE: May 26, 2026

FROM: Graduate Studies Committee

PRESENTED BY: Pejman Mirza-Babaei, GSC Chair & SGPS Dean

SUBJECT: Outstanding Thesis Award Amendments

COMMITTEE MANDATE:

In accordance with the Graduate Studies Committee (GSC) Terms of Reference, GSC has the responsibility to “Review and approve terms of reference for all graduate scholarships, bursaries and other academic awards and prizes and to report its decisions on these matters to Academic Council.” The following item is thus brought to Academic Council for information.

BACKGROUND/CONTEXT & RATIONALE:

The Outstanding Thesis Award is conferred each year to graduate students in recognition of exceptional research work. Historically, one award has been given for each of the Master’s and Doctoral levels across the University.

Due to increasing diversity in our graduate programs, growing graduate enrollment, and challenges in accurately comparing impact across disparate disciplines, there has been an interest in expanding these awards to one per Faculty at each degree level.

Following consultation with Faculties, SGPS has updated the award to reflect this change.

SUMMARY OF CHANGES:

- The total number of awards is now one per Faculty at each of the Master’s and Doctoral levels.
- Nominations are now made collectively by unanimous agreement of the thesis examination committee following the defence and noted in the Chair’s Report.
- Additional editorial changes have been made to improve organization, clarity, and flow.

CONSULTATION AND APPROVAL:

- ✓ Discussion with Faculty Deans: March-April 2026
- ✓ Graduate Studies Committee (for approval): April 28, 2026
- Academic Council (for information): May 26, 2026

NEXT STEPS:

Amendments to the award have been shared with Faculties for administration of the Outstanding Thesis Award for 2025-2026. Winners will be recognized at Spring Convocation.

SUPPORTING REFERENCE MATERIALS:

- Outstanding Thesis Award (clean copy)
- Outstanding Thesis Award (tracked changes)

Outstanding Thesis Award

The Ontario Tech University **Outstanding Thesis Award** was established in 2016 to recognize students graduating from thesis-based master's or doctoral programs at the university whose thesis work represents an original and substantial contribution to their discipline.

Public recognition and value of the award

One award from each Faculty will be presented annually in each of the Master's and Doctoral categories. Students in eligible cross-Faculty joint programs will be considered within the Faculty of their registration and convocation for the purposes of this process.

The thesis awards will normally be publicly announced at the Spring Convocation ceremony. The winners will be listed in the Convocation program and receive a certificate.

Award categories

Master's Thesis

This award recognizes a Master's student who has conducted outstanding Master's thesis research and whose thesis has made (or is expected to make) a significant contribution to their field.

Doctoral Thesis

This award recognizes a doctoral student who has conducted outstanding doctoral thesis research that represents a remarkably impactful contribution to their field.

Selection process and award criteria

Awards will be selected by the Outstanding Thesis Committee (OTC) within each Faculty.

Each OTC is normally chaired by a Graduate Program Director from the Faculty. The committee should also have a diverse representation of graduate programs from the Faculty.

The committee will submit one selected recipient for each award (Master's and Doctoral) and a decision summary to the SGPS Dean for final approval as outlined in the nomination review process.

Eligibility criteria

The award is open to all students who have completed a thesis-based graduate program at the university. Nominations are made by unanimous agreement of the examining committee following the thesis defence and must be indicated in the examination Chair's Report alongside a justification for the nomination.

Additionally, nominees must meet all of the following criteria:

- a) Obtained a GPA of 3.7 or higher in their program.
- b) The outcome of the student's thesis defense was either Acceptable without Required Revisions or Acceptable with Minor Revisions.
- c) The student has completed their defence, fulfilled all degree requirements, and submitted their thesis within the eligibility window, which extends from the day after the [posted Winter thesis submission deadline](#) in the previous academic year to the day of the current year's deadline.
- d) The student has no academic offenses on their record.

Note: Students who submit their thesis to SGPS after the [posted Winter thesis submission deadline](#) will be considered in the following year's competition.

Selection criteria

The OTC from each Faculty will evaluate the candidates' nominations using the following criteria:

- a) The evaluation of the thesis by examining committee members, including the Supervisor Notes and justification for nomination given in the Chair's Report.
- b) The scholarly accomplishments that have arisen from the thesis research. This can include peer-reviewed articles, research monographs, patents, and other creative works.
- c) The significance of any research breakthrough or major advancements made by the nominee's thesis research.
- d) Awards and other forms of recognition for research accomplishments by professional societies.
- e) The current and future impact of the thesis research on society.

Nomination review process

Each Faculty at the university may recommend one winner at each of the Master's and Doctoral levels.

1. Nomination package

Following the [posted Winter thesis submission deadline](#) each year, SGPS will provide a nomination package for each Faculty's nominees to the corresponding OTC which will include:

- a) A copy of the thesis.
- b) A copy of the Thesis/External Examiner's Report on the thesis. Doctoral-level nomination packages will also include the University Examiner's Report on the thesis.
- c) A copy of the Chair's Report on Thesis Examination.

2. OTC decision submission

The award will be conferred on an annual cycle corresponding with Spring Convocation. SGPS will include the current year's OTC decision deadline (normally the first week of May) when distributing nomination packages to Faculties.

Each Faculty OTC must submit a decision summary to the SGPS Dean for final approval which will include:

- The selected nominee for the Faculty Master's award
- The selected nominee for the Faculty Doctoral award
- A list of OTC members (including who chaired the committee)
- A summary of the decision-making process including scoring (if applicable)
- A summary of any identified conflicts of interest and their resolution

Winners will be notified by SGPS through a public announcement.

Outstanding Thesis Award

The Ontario Tech University **Outstanding Thesis Award** was established in 2016 to recognize ~~a student~~s graduating from ~~a~~ thesis-based master's or doctoral programs at the university whose thesis work represents an original ~~work that makes a~~and substantial contribution to theirir discipline.

Public recognition and value of the award

~~A maximum of one award~~One award from each Faculty will be presented annually in each of the Master's and Doctoral categories. Students in eligible cross-Faculty joint programs will be considered within the Faculty of their registration and convocation for the purposes of this process.

~~Each thesis award consists of a recognition plaque.~~ The thesis awards will normally be publicly announced ~~during the convocation ceremony at the Spring Convocation ceremony.~~ The winners will be listed in the Convocation program and receive a certificate.

Award categories

Master's Thesis

This award recognizes a Master's student who has ~~written an~~conducted outstanding Master's thesis research and whose thesis has made (or is expected to make) a significant contribution to their field.

Doctoral Thesis

This award recognizes a ~~PhD~~doctoral student who has ~~written an~~conducted outstanding doctoral thesis research that represents a remarkably impactful contribution to their field ~~of research.~~

Selection process and award criteria

~~The award will be selected by the Graduate Studies Awards Committee. This committee is chaired by the Dean of Graduate Studies or their designate.~~ Awards will be selected by the Outstanding Thesis Committee (OTC) within each Faculty.

Each OTC is normally chaired by a Graduate Program Director from the Faculty. The committee should also have a diverse representation of graduate programs from the Faculty.

~~The committee will normally consist of one member from each Faculty Selection Committee who does not have a conflict of interest with any nominee. The membership should also have a diverse representation of research disciplines.~~

The committee will recommend submit one selected nominees recipient for each award (Master's and Doctoral) and a decision summary to the SGPS Dean for final approval of Graduate Studies as outlined in the nomination review process.

Eligibility criteria

The award is open to all students who have completed a thesis-based graduate program at the university, ~~and whose thesis was recommended for an award by the thesis/external examiner, and who meet the following criteria:~~ Nominations are made by unanimous agreement of the examining committee following the thesis defence and must be indicated in the examination Chair's Report alongside a justification for the nomination.

Additionally, nominees must meet all of the following criteria:

- a) Obtained a GPA of 3.7 or higher in their program.;
- b) The outcome of the student's thesis defense was either Acceptable without Required Revisions or Acceptable with Minor Revisions.;
- b)c) The student has completed their defence, fulfilled all degree requirements, and submitted their thesis within the eligibility window, which extends from the day after the posted Winter thesis submission deadline in the previous academic year to the day of the current year's deadline.
- c)d) The student has no academic offenses on their record.

Note: ~~students~~ Students who submit their thesis to SGPS after the ~~winter~~ posted Winter thesis submission deadline (April 17, 2025) will be considered in the following year's competition.

Selection criteria

The ~~awards committee~~ OTC from each Faculty will evaluate the candidates' nominations using the following criteria:

- a) The evaluation of the thesis by examining committee members, including the Supervisor Notes and justification for nomination given in the Chair's Report.
- b) The scholarly accomplishments that have arisen from the thesis research. This can include peer-reviewed articles, research monographs, patents, and other creative works.
- c) The significance of any research breakthrough or major advancements made by the nominee's thesis research.
- d) Awards and other forms of recognition for research accomplishments by professional societies.
- e) The current and future impact of the thesis research on society.

~~Note: students who submit their thesis to SCPS after the winter submission deadline (April 17, 2025) will be considered in the following year's competition.~~

~~Award categories~~

~~Master's Thesis~~

~~This award recognizes a Master's student who has written an outstanding Master's thesis and whose thesis has made (or is expected to make) a significant contribution to their field.~~

~~Doctoral Thesis~~

~~This award recognizes a PhD student who has written an outstanding doctoral thesis that represents a remarkably impactful contribution to their field of research.~~

Nomination ~~Review-review Processprocess~~

Each Faculty at the university may recommend one winner at each of the Master's and Doctoral levels. ~~is permitted **one nomination** in each category.~~ Eligible graduate programs that ~~are considered cross-Faculty can also directly nominate a student in each category.~~

1. ~~Application-Nomination~~ package

~~The nomination package for each faculty candidate must include:~~

- ~~a) The nomination form~~

- ~~b) A nomination letter (2 pages maximum) written by the **Faculty Selection Committee nominator(s)** summarizing why the candidate's thesis is outstanding and outlining the significance of the candidate's scholarly work. The letter must clearly identify how the nominee meets the award evaluation criteria (committee may use chart completed by supervisor to write letter).~~
- ~~○ The letter may also comment on the normal number of publications for the field/degree and should mention the journal quartile for any published papers.~~
- ~~○ Note that the total number papers for a Master's student will be used as a tie breaker if necessary, rather than as an essential factor in determining if the thesis is the most outstanding.~~

Following the posted Winter thesis submission deadline each year, SGPS will provide a nomination package for each Faculty's nominees to the corresponding OTC which will include:~~The following items must be included in the nomination package, but will be provided in a folder by SGPS:~~

- ~~a) The curriculum vitae of the nominee~~
- ~~b)a) _____ A copy of the thesis.~~
- ~~c) A copy of the Recommendation for Awards Form completed by the thesis/external examiner of the thesis~~
- ~~d)b) _____ A copy of the Thesis/External Examiner's Report on the thesis. Doctoral-level candidates must~~nomination packages will also include the University Examiner's Report on the thesis.
- ~~c) A copy of the Chair's Report on Thesis Examination.~~

~~All nominees will be notified of their status after public announcement of the award recipients.~~

2. Nomination deadlineOTC decision submission

The award will be ~~given out~~conferred on an annual cycle ~~to correspond with June convocation~~corresponding with Spring Convocation. As such, the submission deadline for faculty selection committee nomination packages will **normally be the last day** in the winter semester. All eligible candidates must have defended their thesis, and completed all degree requirements no more than 1 year prior to the final thesis submission deadline. Each year the School of Graduate and Postdoctoral Studies SGPS will ~~circulate~~include the current year's OTC decision deadline (normally the first week of May) date as part of call for nominations announcements sent to each Faculty when distributing nomination packages to Faculties.

Each Faculty OTC must submit a decision summary to the SGPS Dean for final approval which will include:

- The selected nominee for the Faculty Master's award
- The selected nominee for the Faculty Doctoral award
- A list of OTC members (including who chaired the committee)
- A summary of the decision-making process including scoring (if applicable)
- A summary of any identified conflicts of interest and their resolution

Winners will be notified by SGPS through a public announcement.

~~This year's nominations must be emailed to
gradthesis@ontariotechu.ca no later than 4:00 p.m. on April 24,
2025.~~

~~Late nominations will not be considered.~~

~~For any questions, please email gradthesis@ontariotechu.ca.~~