DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY
PUBLIC MEETING OF THE BOARD OF GOVERNORS
AGENDA

Date: Wednesday, June 7, 2023, 6:00 p.m.

Location: Oshawa Campus,Durham College Boardroom, A144

When making decisions, the Board is encouraged to consider the College's values of collaboration, diversity & inclusion, excellence, innovation, integrity, respect, and social responsibility.

Pages

1. CALL TO ORDER

2. INTRODUCTION OF GUESTS

3. CONFLICT OF INTEREST DECLARATIONS

4. PRESENTATIONS

4.1 Recognition of Gold Medal Winners from the 2023 Skills Ontario Competition

4.2 Update on the Work of the Durham College Alumni Association

Presenters: Linda Flynn, AVP, Office of Development and Alumni Affairs & G. DeSousa, President of the Durham College Alumni Association

5. CONSENT AGENDA

The following items will be addressed through the Consent Agenda unless specifically removed for separate attention, by request.

Recommendation
That all items listed under the heading of consent agenda be adopted as recommended.

5.1 Approval of Public Session Agenda

Recommendation
That the public agenda for the June 7, 2023, Board of Governors meeting be approved as presented.

5.2 Approval of Public Minutes from the Board of Governors Meeting of May 10, 2023 4 - 10

Recommendation
That the public minutes of the Board of Governors meeting of May 10, 2023, be approved as presented.

5.3 Report of the Governance Review Committee - May 23, 2023 11 - 17

Recommendation
That the report of the Governance Review Committee meeting held on May 23, 2023 be received for information and the following resolutions be approved:

1. That the Board-President Relationship Policy: Negotiating the President's Contract be approved.
2. That the Governance Process Policy: Collection, Use, and Disclosure of Governor Personal Information be approved as amended.

6. CHAIR'S REPORT

7. CO-POPULOUS GOVERNORS' REPORT

8. DECISION ITEMS

8.1 New Program of Instruction: Bachelor of Construction Management - E. Popp & T. Doyle 18 - 61

Recommendation
It is recommended to the Durham College Board of Governors:

That in accordance with Report BOG-2023-63, the Bachelor of Construction Management three-year degree program be approved.

8.2 New Program of Instruction: Bachelor of Cybersecurity - E. Popp, T. Doyle & N. Kanga 62 - 107

Recommendation
It is recommended to the Durham College Board of Governors:

That in accordance with Report BOG-2023-64, the Bachelor of Cybersecurity degree program be approved.

8.3 New Program of Instruction: Bachelor of Business Administration (Human Resources Management) - E. Popp & K. Baker 108 - 151

Recommendation
It is recommended to the Durham College Board of Governors:

That in accordance with Report BOG-2023-64, the Bachelor of Business Administration (Human Resources Management) degree program be approved.

152 - 206

8.4 New Program of Instruction: Honours Bachelor of Crime and Intelligence Analysis/Bachelor of Crime and Intelligence Analysis - E. Popp & R. Hofmann

Recommendation

It is recommended to the Durham College Board of Governors:

That in accordance with Report BOG-2023-66 the proposed programs of Instruction listed below be approved:

- Bachelor of Crime and Intelligence Analysis
- Honours Bachelor of Crime and Intelligence Analysis

9. DISCUSSION ITEMS

10. INFORMATION ITEMS

11. UPCOMING EVENTS

- Spring Convocation - June 12 to 14, 2023 - Tribute Communities Centre
- College Quality Assurance Audit Process Virtual Site Visit (Board Interview) - June 19, 2023

12. MOVE TO IN-CAMERA SESSION

13. ADJOURNMENT

DURHAM COLLEGE OF APPLIED ARTS AND TECHNOLOGY
BOARD OF GOVERNORS REGULAR MEETING
PUBLIC SESSION MINUTES

Date: Wednesday, May 10, 2023

Location: Oshawa Campus, Durham College Boardroom, A144

Members Present: Gary Rose, Chair of the Board
Lisa Allen
Ian Ball
Suzanne Beale
Melissa Bosomworth
Elizabeth Cowie
Kelly Doyle
Gail Johnson Morris, Vice-Chair of the Board
Don Lovisa, President
Ian Murray
Jerry Ouellette
Peter Pryce
Dwight Townsend
Atif Usmani
Nathan Wilson

Members Absent: Kalyan Chakravarthy

Staff Present: Scott Blakey, Chief Administrative Officer
Peter Garrett, Mgr., Strategic Reporting and Government Relations
Tara Koski, Dean, Students
Barbara MacCheyne, Chief Financial Officer/VP, Administration
Elaine Popp, Executive Vice-President, Academic
Melissa Pringle, Corporate and Board Secretary

1. CALL TO ORDER

With quorum present, the Chair called the meeting to order at 6:00 p.m.

2. INTRODUCTION OF GUESTS

The Chief Administrative Officer introduced the following guests:

Enactus Team

- Sydnee Harding
- Dylan Irving
- Andrew Neary
- Tammy Raycraft
- Katie Sampson
- Erica Van Hezewijk
- Danielle Harder, Faculty Mentor
- Jay Fisher, Faculty Mentor
- Heather Brown, Staff Mentor

Staff

- Tony Doyle, Executive Dean, Faculty of Science, Engineering and Information Technology
- Moreen Fearon-Tapper, Associate Dean, Faculty of Media, Art & Design
- Rashmi Gupta, Director, Institutional Research and Planning (ORSIE)
- Nazneen Kanga, Associate Dean, Faculty of Science, Engineering and Information Technology
- Sundar Manku, Manager, Entrepreneurship Services (ORSIE)
- Debbie McKee Demczyk, Dean, Office of Research Services, Innovation & Entrepreneurship (ORSIE)
- Rebecca Milburn, Executive Dean and Principal, Faculty of Hospitality and Horticultural Sciences and Faculty of Skilled Trades and Apprenticeship
- Kelly O'Brien, Associate Dean, Faculty of Hospitality and Horticultural Science, Bistro '67 and Farm Operations
- Mojgan Rezvani, Executive Dean, Faculty of Health Sciences
- Kara Woods, Associate Dean, Faculty of Science, Engineering and Information Technology
- Barry Waite, Executive Dean, Faculty of Media, Art & Design

3. CONFLICT OF INTEREST DECLARATIONS

The Chair asked if there were any conflict of interest declarations. None noted.

4. PRESENTATIONS

4.1 Enactus

The Board received a presentation about Enactus and the Enactus Team presented the pitch that won them the Central Regional Exposition 2023 in TD Entrepreneurial Challenge.

The Board questioned members of the Enactus Team.

5. CONSENT AGENDA

Moved by Governor Wilson
Seconded by Governor Usmani
"That all items listed under the heading of consent agenda be adopted as recommended." CARRIED

5.1 Approval of Public Session Agenda

That the public agenda for the May 10, 2023, Board of Governors meeting be approved as presented.

5.2 Approval of Public Minutes from the Board of Governors Meeting of April 12, 2023

That the public minutes of the Board of Governors meeting of April 12, 2023, be approved as presented.

5.3 Ratification of Election Results - Chair and Vice-Chair of the Board

That the results of the election for the positions of Board Chair and Board Vice-Chair be ratified and Gail Johnson Morris be confirmed as Chair and Lisa Allen be confirmed as Vice-Chair for the 2023-2024 Board year.

6. CHAIR'S REPORT

The Chair reported on the following items:

- Governors were reminded to register to attend convocation in June by Friday, May 26.

- Governors who attended the World Congress in Montreal and the Centre for Innovation & Research grand opening reflected on the events.

7. CO-POPULOUS GOVERNORS' REPORT

There was no co-populous Governors' report.

8. DECISION ITEMS

8.1 New Program of Instruction: Clinical Bioinformatics

The Board received a report from the Executive Vice-President, Academic and the Executive Dean, Faculty of Health Sciences, presenting a new program of instruction for approval, Clinical Bioinformatics Ontario College Graduate Certificate.

Additionally, the Board received confirmation from the Executive Vice-President, Academic, that the program had been through the full internal approval process, conformed with the credentials framework, was consistent with program standards, and complied with the relevant Ministry Binding Policy Directives.

The Board questioned the Executive Vice-President, Academic and the Executive Dean, Faculty of Health Sciences around the types of careers graduates could expect, the prerequisites for the program, the program's net contribution, and marketability to other industries and partners.

Moved by Governor Townsend
Seconded by Governor Pryce
"That in accordance with Report BOG-2023-37, the Clinical Bioinformatics Ontario College Graduate Certificate program be approved." CARRIED

8.2 New Program of Instruction: Nutrition and Food Service Management

The Board received a report from the Executive Vice-President, Academic and the Associate Dean, Faculty of Hospitality and Horticulture Science, Bistro '67 and Farm Operations, presenting a new program of instruction for approval, Nutrition and Food Service Management.

Additionally, the Board received confirmation from the Executive Vice-President, Academic, that the program had been through the full internal approval process, conformed with the credentials framework, was consistent with program standards, and complied with the relevant Ministry Binding Policy Directives.

The Board questioned the Executive Vice-President, Academic and the Associate Dean, Faculty of Hospitality and Horticulture Science, Bistro '67 and Farm Operations about the student demographic and how students would learn about local food and processes.

Moved by Governor Ouellette
Seconded by Governor Murray
"That in accordance with Report BOG-2023-38, the Nutrition and Food Service Management Ontario College Diploma program be approved." CARRIED

8.3 New Program of Instruction: Science and Engineering Fundamentals

The Board received a report from the Executive Vice-President, Academic and the Executive Dean, Faculty of Science, Engineering and Information Technology, presenting a new program of instruction for approval, Science and Engineering Fundamentals.

Additionally, the Board received confirmation from the Executive Vice-President, Academic, that the program had been through the full internal approval process, conformed with the credentials framework, was consistent with program standards, and complied with the relevant Ministry Binding Policy Directives.

The Board questioned the Executive Vice-President, Academic and the Executive Dean, Faculty of Science, Engineering and Information Technology about the uniqueness of fundamental programs.

Moved by Governor Johnson Morris
Seconded by Governor Cowie
"That in accordance with Report BOG-2023-39, the Science and Engineering Fundamentals Ontario College Certificate program be approved." CARRIED

Governor Johnson Morris temporarily left and re-entered the meeting.

8.4 Business Plan for 2023-2024

The Board received a report from the Manager, Strategic Reporting and Government Relations, presenting the 2023-2024 Business Plan for approval.

The Board questioned the Executive Vice-President, Academic and the Manager, Strategic Reporting and Government Relations regarding several actions contained in the plan.

Moved by Governor Doyle
Seconded by Governor Bosomworth
"That based on Report BOG-2023-41 the 2023-2024 Business Plan, be approved." CARRIED

8.5 Annual Report for 2022-2023

The Board received a report from the Manager, Strategic Reporting and Government Relations, presenting the 2022-2023 annual report for approval.

The Board questioned the Manager, Strategic Reporting and Government Relations regarding the section of the annual report related to marketing complaints.

Moved by Governor Beale
Seconded by Governor Ball
"That based on Report BOG-2023-42, the 2022-2023 Durham College annual report, be approved." CARRIED

9. DISCUSSION ITEMS

9.1 Year Three Evaluation: Strategic Mandate Agreement - Final Report

The Board received a report from the Director, Institutional Research and Planning providing the final update on the year three evaluation and revised weightings for each metric to start in the 2023-2024 academic year.

The Board questioned the Director, Institutional Research and Planning regarding the funding at risk under the performance funding model and the College's confidence in the metric weightings. In response to questions, the Director, Institutional Research and Planning advised the maximum amount of funding at risk was $343K.

Furthermore, President Lovisa spoke about the College's submission to the Blue Ribbon Panel and the extensive work required to report against the Strategic Mandate Agreement.

9.2 Durham College-Ontario Tech University Academic Pathways Report for 2022-2023

The Board received a report from the Director, Institutional Research and Planning providing a status update on the academic pathways and student mobility between Durham College and Ontario Tech University for the 2022-2023 academic year.

The Board questioned the Executive Vice-President, Academic and the Director, Institutional Research and Planning regarding the status of the articulation agreement with Ontario Tech University, the amount of credit transfer available to students, and our pathways with other institutions, specifically Trent in Durham.

10. INFORMATION ITEMS

The following item was presented for information only.

10.1 President's Report - April to May 2023

11. UPCOMING EVENTS

The Chair drew attention to the following events:

- Employee Town Hall - May 17, 2023, 10:00 a.m. to 12:00 p.m.
- Spring Convocation Ceremonies - June 12 to 14, 2023

12. MOVE TO IN-CAMERA SESSION

Durham College By-law No. 1. provides for the Board of Governors to address, in-camera, items that the Board deems to be confidential to the College.

Moved by Governor Allen
Seconded by Governor Wilson
“That the Board of Governors move in-camera after a 10-minute recess.”
CARRIED

The Board recessed at 7:51 p.m. and reconvened in-camera at 8:02 p.m.

The Board rose from the in-camera session at 9:40 p.m.

During the in-camera session, the Board discussed recommendations from its Standing Committees, and various employment matters.

13. ADJOURNMENT

With no further business, the meeting ended at 9:41 p.m.

DURHAM COLLEGE
SUCCESS MATTERS

PUBLIC REPORT OF THE GOVERNANCE REVIEW COMMITTEE

TO THE DURHAM COLLEGE BOARD OF GOVERNORS FOR CONSIDERATION AT ITS PUBLIC MEETING HELD ON JUNE 7, 2023

BACKGROUND

The Governance Review Committee met via teleconference (MS Teams) on Tuesday, May 23, 2023.

SUMMARY

1. Minutes of the February 27, 2023, Governance Review Committee Meeting

The Committee reviewed its minutes from the February 27, 2023, Governance Review Committee meeting.

2. Proposed New Policy: Negotiating the President's Contract

The Committee reviewed and discussed a proposed new policy, Negotiating the President's Contract.

The Committee questioned President Lovisa about the impetus for the policy and how conflicts of interest are handled with internal Governors when the President's employment contract is discussed at a Board meeting.

Additionally, the Committee suggested the review period for new policies be one year and then, after review, subsequently follow the three-year review cycle.

It is recommended that the following resolution be passed.

RESOLVED

That the Board-President Relationship Policy: Negotiating the President's Contract be approved.

3. Proposed New Policy: Collection, Use and Disclosure of Governor Information

The Committee reviewed and discussed a proposed new policy, Collection, Use and Disclosure of Governor Information.

The Committee discussed the wording of Section 1.5 and expressed concern about keeping "personal information" permanently and requested clarification on the types of personal information kept on file. Following a brief discussion, the Committee requested to amend Section 1.5 by striking out "personal information" and replacing it with "contact and general information." Further, the Board Secretary confirmed that the College's information management policy contained an umbrella statement about not collecting, using, or disclosing information for a purpose other than for which it was collected.

It is recommended that the following resolution be passed.

RESOLVED

That the Governance Process Policy: Collection, Use, and Disclosure of Governor Personal Information be approved as amended.

4. President's Compliance Report for 2022-2023

The Committee received a report from President Lovisa confirming compliance with legislation and Board policy for the 2022-2023 Board year. Further, the Committee discussed the need to assess the process for reviewing the President's performance when a new person is appointed.

5. Board Development Framework

The Committee discussed the proposed Board Development Framework that was prepared as a result of the joint meeting with the Nominating Committee. The Committee agreed the framework was flexible and captured the feedback and comments from recent onboarding, mentorship, and leadership development discussions. Additionally, the Committee suggested that having another joint meeting in the fall with the Nominating Committee to assess the progress of implementing the framework would be beneficial. Further, the Board requested that a clean copy of the framework be added to the upcoming Board agenda for information.

6. 2022-2023 Committee Start, Stop, Continue Feedback

The Committee reviewed and discussed the results of the start, stop, and continue feedback survey. A brief discussion ensued about identifying high performers earlier in their tenure, succession planning and board development at the Committee level and the desire to be more strategic when making appointments.

Respectfully submitted,
Elizabeth Cowie, Chair, Governance Review Committee

View all agenda material from this meeting by clicking here.

POLICY TYPE: Board-President Relationship
POLICY TITLE: Negotiating the President's Contract
EFFECTIVE DATE: XX
REVISION DATE:
RENEWAL DATE: XX

In this policy, unless otherwise defined herein or the context requires otherwise, words have the same meaning as they do in the Definitions Schedule to By-law No. 1 of the College.

1. POLICY STATEMENTS

It is necessary to negotiate the president's contract when selecting a new president or when the president's contract is renewed. In either case, the process for negotiating a contract is the same.

The Board of Governors Executive Committee (excluding the current president) is responsible for negotiating the president's contract and will use the following guidelines when doing so:

- The process shall reflect rigor, thoroughness, and objectivity;
- The process shall respect confidentiality;
- The contract shall comply with applicable government statutes, regulations, Minister's Binding Policy Directives, and operating procedures and consider any other reference documents provided by the College Employer Council.

2. PROCEDURE

2.1 Negotiating the Contract

As delegated by the Board, the Executive Committee has the authority to lead the contract negotiation process. Typically, the Board Chair will seek advice from the Executive Committee and negotiate directly with the president.

The Board of Governors is responsible for and approves the negotiated contract before it is signed.

2.2 Internal Resources

The Board Secretary and/or the Chief Administrative Officer (unless they have applied for the position of president) provides logistical assistance in ensuring the negotiation process and activities are conducted in conjunction with Board, College, and government policies and procedures.

To avoid any possible conflicts of interest, it should be emphasized that the only function of this internal resource is to facilitate the logistics of this process and ensure that sufficient resources are appropriately provided and budgeted.

2.3 External Resources

When developing the contract, legal counsel must be consulted.

2.4 Communications

There shall not be any public announcement of the successful candidate until a contract is executed to ensure the negotiation process is not compromised.

3. MONITORING

The Governance Review Committee will review this policy as part of its cyclical review of Board by-laws and policies.

4. RELATED LEGISLATION, MINISTER'S BINDING POLICY DIRECTIVES AND OTHER DOCUMENTS

4.1 Board Policy: Committee Terms of Reference

4.2 Ministry Binding Policy Directive: Board-President Relations

POLICY TYPE: Governance Process
POLICY TITLE: Collection, Use, and Disclosure of Governor Information
EFFECTIVE DATE: XX
REVISION DATE:
RENEWAL DATE: XX

In this policy, unless otherwise defined herein or the context requires otherwise, words have the same meaning as they do in the Definitions Schedule to By-law No. 1 of the College.

1. POLICY STATEMENTS

It is necessary to collect personal information to meet legal obligations, facilitate the onboarding of Governors, and to facilitate participation in various Board and College activities.

1.1 The Board will collect, use, and disclose Governor information in accordance with applicable legislation, Ministry Binding Policy Directives, Board by-laws, and Board policies.

1.2 The College's information management framework and policies shall apply to the personal information of Governors, including taking reasonable steps to protect the information in its custody and control.

1.3 Each Governor shall provide any personal information requested by the Board Secretary for the facilitation of Board activities.

(a) A Governor who refuses to provide the necessary personal information in a timely manner may be removed from the Board pursuant to Board By-law No. 1 (Section 13).

1.4 While on the Durham College Board of Governors, the Board Secretary will:

(a) Post a Governor's photograph and biography on the College website;

(b) Post contact information for each Governor on the Board portal for use by other Governors and the senior leadership team;

(c) Disclose a Governor's personal information to the Ministry of Colleges and Universities, the Canadian Revenue Agency, the Quebec Business Registry, College Employer Council, and the College's insurance providers annually.

1.5 The contact and general information collected from Governors (except photocopies of government-issued identification) is kept permanently in the College's customer relationship management database.

1.6 Subject to applicable legislation, any photocopies of government-issued identification shall be securely destroyed by the Board Secretary one-year after a Governor has left the Board.

2. REQUIREMENTS FROM THE QUEBEC BUSINESS REGISTRY

2.1 The College is registered to conduct business in Quebec, which requires submitting government-issued identification for each Director (known at Durham College as "Governors").

2.2 The Board Secretary or designate is authorized to collect and photocopy from each Governor **one** of the following pieces of acceptable identification (identity documents must include first name, surname, and date of birth):

(a) Passport;

(b) Driver's or Learner's licence;

(c) Health Insurance Card;

(d) Canadian Permanent Resident Card;

(e) Immigration document issued by the Government of Canada (IMN-1422);

(f) Official identification for military, police or diplomatic personnel stationed in Canada;

(g) Secure Certificate of Indian Status;

(h) Quebec Birth Certificate;

(i) Identification issued by a Canadian Province or Territory that includes a date of birth.

2.3 The Board Secretary shall submit the required identification for each Director upon request to the Quebec Business Registry using a secure link.

3. MONITORING

The Governance Review Committee will review this policy as part of its cyclical review of Board by-laws and policies.

Public Report

Report Number: BOG-2023-63

To: Board of Governors

From: Dr. Elaine Popp, Executive Vice President, Academic

Date of Report: May 25, 2023

Date of Meeting: June 7, 2023

Subject: New Program of Instruction – Bachelor of Construction Management

1. Purpose

To seek approval from the Board of Governors for the following post-secondary program of instruction for Fall 2025 intake:

Bachelor of Construction Management

- Credential: Bachelor Degree
- Duration: Three years
- Faculty: Science, Engineering and Information Technology

2. Recommendation

It is recommended to the Durham College Board of Governors:

That in accordance with Report BOG-2023-63, the Bachelor of Construction Management three-year degree program be approved.

3. Background

The Bachelor of Construction Management (BCM) will be the only three-year degree offered in Ontario to develop future construction managers. The proposed three-year degree will provide graduates with the in-depth technical knowledge and project management skills necessary to coordinate residential and non-residential construction projects while expediting entry into the workforce. A three-year Bachelor of Construction Management will be appealing to individuals with previous education or professional experience as it allows them to gain the knowledge and skills necessary for management roles, while expediting (re)entry into the workforce. A three-year degree also offers greater flexibility to individuals depending on their career goals, as those who do wish to pursue additional advanced education in construction management have the option of entering the fourth year of DC's Honours Bachelor of Construction Management program.

Currently, there are only two degree-level programs in construction management offered at Ontario colleges. Durham College and George Brown College hold ministerial consent to offer a four-year Honours Bachelor of Construction Management. Algonquin, Mohawk and George Brown Colleges offer a program in Bachelor of Business Administration (Trades Management) and George Brown offers another program in the same field, Bachelor of Applied Technology (Construction and Environment - Regulations and Compliance).

There are no construction management programs offered as bachelor's degrees at Ontario Universities. The University of Toronto offers a master's degree in civil engineering with the option to specialize in construction management. However, college-trained graduates are better prepared to meet the growing labour market demand due to the primary focus on construction management and the wide range of experiential opportunities available at the college level.

Outside of Ontario, a small number of Canadian colleges and universities offer degree level credentials in construction management. Red River College offers a program in construction with four academic exit points leading to different credentials. The four potential end destinations for students at Red River College are: Civil Technology certificate, Construction Technician certificate, Construction Technology diploma, and Construction Management degree. Additionally, the British Columbia Institute of Technology (BCIT) and the Northern Alberta Institute of Technology (NAIT) offer construction management degrees as completion programs, open to individuals with two previous years of post-secondary education in construction related programs. The Southern Alberta Institute of Technology (SAIT) offers a Bachelor of Science in Construction Management, and the University of the Fraser Valley offers a Bachelor of Business Administration in Trades Management.

The BCM program will provide graduates with the knowledge and skills required for in-depth management and coordination of projects in residential, industrial, commercial, and institutional sectors of the construction industry. They will develop a firm grounding in construction science, project planning, execution and coordination, site management and quality control skills to effectively assist in managing construction projects to completion.

The program will provide a strong foundation in building construction, architecture technology and engineering fundamentals and an in-depth study of business management skills, while emphasizing critical and analytical thinking skills, the importance of interdisciplinary practice and strong leadership.

Employment as junior project coordinators, junior estimators and junior site coordinators will be available to this graduate. With additional education and/or experience, they may be considered for roles as project coordinators, project

managers and site superintendents in the construction sector. In addition, graduates of the program have the knowledge and skills to pursue further graduate study in Construction Management or related fields.

As per the Ministry of Training, Colleges and Universities' Minister's Binding Policy Directive 3.0, Programs, Framework for Programs of Instruction, the Board of Governors is responsible for approving programs of instruction the college will offer.

It is the role of the Durham College Board of Governors to ensure that programs of instruction are developed and implemented in conformity with the Credentials Framework and are consistent with provincial program standards where they exist. It is also the responsibility of the Board to ensure that all new and modified post-secondary programs of instruction lead to one of the following credentials: Durham College Certificate, Ontario College Certificate, Ontario College Diploma, Ontario College Advanced Diploma, Ontario College Graduate Certificate or Bachelor's Degree.

We confirm that Durham College is in compliance with all Minister's Binding Policy Directives as noted above, for this new program of instruction.

4. Discussion

Based on the environmental scan, it is expected that the BCM program would be a strong addition to DC's program offerings. The degree will provide graduates with the in-depth technical and industry knowledge and project management skills necessary to coordinate residential and non-residential construction projects while expediting entry into the workforce.

After a review of the need for the BCM program, DC determined it would be valuable to add this degree to its postsecondary offerings because of the:

- Shortage of skilled workers in the construction industry.
- Increased investment in non-residential construction, creating numerous opportunities for construction management employment.
- Construction activity in Ontario, accounting for roughly half in the Greater Toronto Area (GTA).
- Opportunity for individuals with prior education or professional construction or trades experience to develop the skills necessary to move into management roles.
- Pathway to DC's four-year Honours Bachelor of Construction Management and synergy with construction related trades programs at DC.

As construction projects become increasingly complex, delivering them on time and on budget becomes more challenging. Although many factors contribute to a project being late or over-budget, inefficiencies due to a lack of proper project management is a major contributing factor[1]. Construction managers drive efficiency in the construction process by carefully planning, coordinating and monitoring the execution of a construction project. Construction managers have a wide range of responsibilities including creating budgets and schedules, applying for building permits, creating site plans, arranging inspections, procuring materials and labour, coordinating the activities of different trades teams and monitoring the project for compliance with relevant regulations[2].

The construction industry is one of Canada's largest industrial sectors, employing roughly 1.4 million people, contributing $141 billion to the economy annually and accounting for approximately 7.5 per cent of the country's total gross domestic product (GDP)[3]. Ontario's construction industry accounts for roughly one-third of Canada's total construction industry employing roughly 534,000 individuals[4]. Further, roughly half of the construction activity within the province of Ontario takes place in the Greater Toronto Area (GTA). Although the construction industry was adversely impacted by the COVID-19 pandemic in 2020 due to lay-offs, site closures, supply-chain issues and increased material costs, the sector quickly recovered in 2021 due to substantial increases in investments into residential construction and major infrastructure projects. This rapid increase in investment in the construction industry has created recruitment challenges for construction firms across the residential and non-residential sectors as increases in demand have substantially outpaced increases in supply[5]. It is projected that by 2027 there will be a shortage of roughly 18,800 workers in Ontario.

The Toronto Region Board of Trade (TRBOT) estimates that construction managers, estimators and site superintendents will be among the top in demand positions in the construction industry between 2016 and 2031[6]. Further, the TRBOT estimates that sourcing from the region's non-apprenticeship post-secondary system will become increasingly necessary as the majority of these occupations require advanced levels of education (often a bachelor's degree) in order to gain entry to the position. The proposed three-year program will help address the shortage of skilled workers in the industry providing individuals with the necessary technical knowledge, trades knowledge, and project management skills to fill entry-level positions in construction management. Specifically, the proposed program will focus of providing graduates with core competencies in construction science, project planning, execution, coordination, site management, and quality control. Graduates of the proposed degree program will possess the

[1] Gilliland Construction Management (2019)
[2] Nuwan et al. (2020)
[3] Canadian Construction Association (2022), https://www.cca-acc.com/about-us/value-of-industry/
[4] Government of Canada Job Bank, https://www.jobbank.gc.ca/trend-analysis/job-market-reports/ontario/sectoral-profile-construction
[5] BuildForce Canada Report (2022)
[6] Toronto Region Board of Trade Talent Study (2016)

knowledge and skills necessary to collaborate with multi-disciplinary teams and facilitate the completion of residential, industrial, commercial, and institutional construction projects from start to finish.

5. Financial/Human Resource Implications

The Program Summary attached provides a projected nine-year budget with account of all capital and human resource requirements.

The proposed new program breaks even in Year 2.

The proposal for the new Bachelor of Construction Management will be submitted to the Ministry of Colleges and Universities for quality review by the Postsecondary Education Quality Assessment Board (PEQAB) in Fall 2023.

6. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

7. Implications for Ontario Tech University

Pathway opportunities at Ontario Tech University will be considered in the future for graduates of the proposed program.

8. Strategic Alignment

8.1 Strategic Fit

The proposed program aligns with the following goals of the Academic, Strategic, and Business Plans.

Academic Plan
Goal 1: Ensure Exceptional Quality in our Academic Programs
Goal 2: Enhance Exemplary Teaching and Learning Practices
Goal 3: Establish and Augment Internationalization and Global Engagement Initiatives

Strategic & Business plans
Pillar: Our Students
Goal: To educate and inspire students to realize success in their careers and communities.

The proposed program represents an opportunity to prepare a cohort of professionals to meet a growing demand for employees in the construction industry. This is an industry that is predicting a labour shortage over the coming years to which this program will support demand.

The Academic Plan ensures DC is ready to respond to constantly changing student expectations, employer needs, professional practices and workplace technologies. The proposed BCM program responds to the changing needs of employers, broader industry and the community. Specifically, the development of the proposed program focuses on Goal 1: Ensuring exceptional quality in our academic programs through the development of new programs including degrees.

8.2 Fit with Existing Programs

The proposed BCM program presents a pathway opportunity into DC's existing four-year HBCM, and there are currently several Ontario College Diploma and Advanced Diploma programs offered by DC that have the potential to serve as pathways for students into the proposed program:

- Architecture Technology,
- Civil Engineering Technician/Technology,
- Human Resources – Business/Business Administration,
- Accounting – Business/Business Administration,
- Supply Chain and Operations - – Business/Business Administration and
- Marketing – Business/Business Administration.

New Program Summary

General Program Information

Proposed Program Title: Bachelor of Construction Management

Proposed Credential: Bachelor Degree (3-year)

Academic Dean(s): Tony Doyle, Executive Dean

Faculty(ies): Science, Engineering & Information Technology

Date of Review by PPRC: May 10, 2023

MTCU Code: #88201

Weight and Funding Unit (as per APS table): Weight = 1.1, Funding = 3.5

Proposed Tuition: Year 1: $6,354.00 (domestic); $18,161.82 (international)

Classification of Instructional Program (CIP) Code(s): Construction Management (52.2001)

NOC Code(s):

- 0711 (2016) – Construction managers to 70010 (2021) Construction managers (e.g., junior project manager, junior project coordinator, residential construction manager, assistant construction manager);
- 2234 (2016) – Construction estimators to 22303 (2021) Construction estimators (e.g., construction estimator, professional quantity surveyor);
- 7205 (2016) – Contractors and supervisors, other construction trades, installers, repairers, and servicers to 72014 (2021) Contractors and supervisors, other construction trades, installers, repairers, and servicers (e.g., roofing/bricklaying/cement finishing/tile setting/etc. contractor, supervisor, or foreman/woman)

Proposed Implementation: Fall 2025

Year 1 Enrolment: 25

Number of Sections, Y1: 1

International Students Seat Allocation: None

Number of Semesters: Six academic semesters + One WIL semester

Total Hours: 1372 instructional hrs + 420 hrs (work term) = 1792 hrs

New or Replacement Program: New

Number of New FT/PT Faculty: None

Program Delivery Methods: Classroom, lab, online, field placement

Laptop Requirement: No

New or Renovated Space Requirements: No

Total Capital Costs: None

1. Approval Stages

The following approval stages have been assessed for this program:

☒ Escan: Labour Market Analysis and for degrees: Student Demand
☒ Budget reviewed and approved by the Chief Financial Officer
☒ Presented to the Program Proposal Review Committee (DATE: May 10, 2023)
☒ New Program Proposal Summary reviewed by the Associate Dean, Centre for Teaching and Learning (DATE: May 25, 2023)
☒ New Program Proposal Summary reviewed by the Executive Dean, Centre for Teaching and Learning (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed and approved by Executive Vice-President, Academic (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed and approved by President (DATE: May 30, 2023)

2. Program Overview

2.1 Program Description

The Bachelor of Construction Management (BCM) program will provide graduates with the knowledge and skills required for in-depth management and coordination of projects in residential, industrial, commercial, and institutional sectors of the construction industry. Students will develop a firm grounding in construction science, project planning, execution and coordination, site management and quality control skills to effectively assist in managing construction projects to completion.

The program will provide a strong foundation in building construction, architecture technology and engineering fundamentals and an in-depth study of business management skills. The program will emphasize critical and analytical thinking skills, the importance of interdisciplinary practice and strong leadership.

Employment opportunities as junior project coordinators, junior estimators and junior site coordinators will be available to this graduate. With additional education and/or experience, they may be considered for roles as project coordinators, project managers and site superintendents in the construction sector. In addition, graduates of the program will have the knowledge and skills to pursue further graduate study in Construction Management or related fields.

2.2 Vocational Program Learning Outcomes

Vocational program learning outcomes must be consistent with the requirements of the Credentials Framework for the proposed credential. The graduate of the program has reliably demonstrated the ability to:

1. Analyze architectural, engineering, and legal documentation to assess deliverables and maintain schedules for residential, industrial, commercial, and institutional construction projects.
2. Analyze cost estimates and compare actual costs to plan, budget, and monitor allocated resources for construction projects.
3. Create construction schedules that include stakeholders and the sequence of construction activities to ensure and monitor alignment with project deliverables and requirements.
4. Assess construction methods, building equipment, safety, and labour requirements to support compliance to regulatory and contract laws.
5. Collaborate with multi-disciplinary teams using leadership, management, communication, and negotiation strategies to support ethical business decisions in construction projects.
6. Analyze construction methods and materials by using quality assurance mechanisms and control techniques to support the evaluation of the associated risk in a construction project.
7. Support the construction project life cycle through statistical analysis, information and digital literacy skills by researching, selecting, and integrating industry standard information technology and systems.
8. Collect evidence/data to support best practices and decision-making for socially-responsible sustainable construction.
9. Evaluate deliverables using building information modeling in consultation with the project management team to procure materials, equipment, and labour for construction projects.
10. Employ recommended negotiation strategies and historically-proven construction management models to address challenges and concerns on construction projects.
11. Create project estimates using construction principles of quantity surveying, pricing, bidding, and tendering that encompasses project material, equipment, labour, and cost requirements.

2.3 Admission Requirements

- Ontario Secondary School Diploma (OSSD) or Mature Student Status
- Six Grade 12 U or M courses with a combined minimum average of 65% including:
  - Grade 12 U English with a final minimum grade of 60%
  - Grade 12 U Mathematics with a final minimum grade of 60%
- Recommended: Calculus, Vectors and Physics

OR

- Six post-secondary credits with a combined minimum average of 65% including:
  - College or university English or communications with a final minimum grade of 60%
  - College or university math with a final minimum grade of 60%
- Recommended: Calculus, Vectors and Physics

2.4 Differentiation (Within DC)

The proposed three-year degree will provide graduates with the in-depth technical knowledge and project management skills necessary to coordinate residential and non-residential construction projects while expediting entry into the workforce. The program will be appealing to individuals with previous education or professional experience as it allows them to gain the knowledge and skills necessary for entry-level management roles, while expediting (re)entry into the workforce. A three-year degree also offers greater flexibility to individuals depending on their career goals, as those who do wish to pursue additional advanced education in construction management have the option of entering the fourth year of DC's Honours Bachelor of Construction Management program.

DC also offers a number of related non-degree programs, namely, Architectural Technology, Building Construction Technician and Civil Engineering Technician/Technology.

The Architectural Technology OCAD program emphasizes sustainability and green design with creative, analytical and mathematical abilities. It is similar to the BCM program in that graduates develop skills in computer assisted design and drafting (CAD), building information modelling (BIM), site planning, calculations of load, structural sizing and estimating project costs, and technical communications. It differs in the substantive content in sustainable architecture with significant study in the history of architecture, the principles and application for drafting and detailing, and design and preservation, rehabilitation and restoration of buildings.

The Building Construction Technician (OCD) program provides foundational skills to transition into the current construction industry. Graduates are prepared to contribute to ensuring energy-efficient, sustainable and environmentally responsible homes are built with up-to-date materials and low carbon footprint. It differs in that the BCM program emphasizes the balance between the technical construction skills and the business and management acumen to work in the construction industry.

The Civil Engineering Technician (OCD) and Civil Engineering Technology (OCAD) programs, similar to the two programs listed above, emphasizes a particular aspect of construction and specific industry. Similar to the BCM program, the graduate develops skills in computer assisted design and drafting (CAD), building information modelling (BIM), testing construction materials, project management and safe working principles on construction sites, in accordance with various Canadian codes, quality control standards and regulations. It differs in that the BCM program emphasizes the balance between the technical construction skills and the business and management acumen to work in the construction industry and the civil engineering technician/technology

program focuses on the design and construction of infrastructure projects, including roads, bridges and water supply systems.

Graduates of the BCM will have the ability to read technical drawings and employ building information modelling to evaluate project deliverables and identify required materials, equipment and labour. Graduates will also have the knowledge and skills necessary to prepare and maintain construction schedules, coordinate the activity of various trades, create project estimates and budgets, monitor resource allocation and identify discrepancies between actual spending and the budget. Additionally, the proposed degree program will provide graduates with well-developed research skills allowing them to effectively analyze construction methods and materials to support compliance with relevant regulations and laws, evaluate the risk associated with construction projects and support decision making around sustainable construction practices. Graduates will also have foundational knowledge of labour relations and be able to support the negotiation and administration of contracts.

3. Program of Study

3.1 Work Integrated and Experiential Learning

What work integrated learning (WIL) and/or experiential learning (EL) opportunity is included or planned for this program? Choose all that apply:

Work Integrated Learning Opportunities

- ☐ Co-op (Mandatory)
- ☐ Co-op (Optional)
- ☐ Clinical placement
- ☐ Field/Work Placement
- ☐ Skills Lab that simulates workplace environment (e.g., clinical skills lab used by nursing students to practice on life-like patient models, “fieldwork”)
- ☒ Degree work placement – Mandatory

Experiential Learning Opportunities Aligned with SMA3 Definition

- ☒ Capstone (solving a real problem through applied research)
- ☐ Industry or Community Agency-Sponsored Research Project
- ☐ Service Learning (bridges community service and required for a course)
- ☐ Faculty-led Study Abroad

Experiential Learning Opportunities Not Aligned with SMA3 Definition - Co-curricular Activities

- ☐ Bootcamp/Hackathon
- ☐ Mentorship/Career Exploration
- ☐ Research/Teaching Assistantship
- ☐ On-campus Work Experience

☐ Work Study
☐ Volunteerism

Describe, briefly, the opportunity(ies) in the proposed program; whether it is consistent with the opportunity(ies) offered at other colleges; if different, why.

Work Integrated Learning (WIL) refers to "the process whereby students come to learn from experiences in educational and practice settings and integrate the contributions of those experiences in developing the understandings, procedures, and dispositions required for effective professional practice, including criticality".[1]

At present, there are no three-year degrees in Construction Management in the CAAT system. The proposed three-year program will provide students the opportunity to expedite entry into the workforce, with a mandatory 14-week, 420-hour work term acting as a unique opportunity to gain hands-on experience in a real-world setting between years two and three.

This program will provide students with an option to earn a baccalaureate-level credential and have the knowledge, skills and experiential learning that will enable them to (re) enter the workforce in entry-level construction management roles in just three years.

[1] Billet, S. (2009b)

New Program Summary

Program Map

YEAR 1		YEAR 2			YEAR 3	
Semester 1	**Semester 2**	**Semester 3**	**Semester 4**	**FP (Spring / Summer)**	**Semester 5**	**Semester 6**
Algebraic & Geometric Mathematics	Introduction to Calculus for Construction	Building Information Modelling 1: Drafting and Drawings	Building Information Modelling 2: Advanced	Work Integrated Learning (mandatory)	Construction Organizational Behaviour	Management of Construction Sites
Construction Methods, Materials & Equipment	Introduction to Architectural & Design Engineering	Materials Science & Testing	Building Structures		Introduction to Construction Law	Building Codes and Regulations
Introduction to Construction Management	Business Foundations	Construction Planning & Scheduling	Quality Assurance & Quality Control in Construction		Construction Costs and Bidding	Project Accounting Control
Construction Estimating 1	Construction Estimating 2	Foundations of Project Management	Building Science & Systems		Research Methods	Integrative Project Studio
			Field Placement Preparation			
Breadth	Breadth	Breadth	Breadth		Breadth	Breadth

Engineering	Architecture	Construction Management	Experiential Learning	Breadth

Semester 1

Course Title: Algebraic and Geometric Mathematics
Course description: Students develop problem solving skills by applying topics of study to related practical problems. Topics of study include: unit conversion, review of algebra, advanced geometry, trigonometry and trigonometric functions as well as statistical analysis. Students apply an understanding of spreadsheet software for graphing a variety of functions, and to solve more advanced mathematical problems in an engineering context.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 56

Course Title: Construction Methods, Materials, and Equipment
Course description: Students examine and study the common construction materials, site variables, equipment, and construction processes relating to residential and ICI construction sectors as influenced by environment and energy efficiency standards. The course provides a basic knowledge of the terminology, the history, and the physical and chemical properties of materials including an introduction to soil types. The course also explores manufacturing and fabrication processes, typical installation methods, and efficiency of utilization and organization in a construction, repurposing or renovation project. Also, the materials and products are evaluated in relation to their suitability as affected by their durability, performance, sustainability, and energy conservation. Metals, wood, concrete, masonry, steel, plastics, drywall, thermal insulations, insulating concrete forms, doors, and windows are among the materials reviewed.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 42

Course Title: Introduction to Construction Management
Course description: Students explore the breadth of concepts in the construction industry and develops a deeper knowledge of the significant factors that impact the industry through research-based analysis and trend awareness. The history of construction management as a profession is explored, with an emphasis on developing a broad knowledge of this discipline in relation to the project life cycle. This class highlights how the construction industry functions in relation to the GDP and how construction drives the economy from a theoretical and practical standpoint including an exploration of labour regulations and hiring practices. Students gain awareness of various stakeholders and analyze construction management processes that are routinely involved in construction projects in relation to the various sectors of the industry. Topics such as design-bid-build, design-build, and construction management at risk (CMAR) are covered. Career opportunities in the construction industry are introduced and explored along with an introduction to the type of contracts and contractors found in the sector.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Construction Estimating 1
Course description: This course introduces students to the history behind estimating and pricing of construction projects, and the bidding procedure commonly used in the construction industry as well as basic principles of project definition and scoping, input requirements, and estimating for a construction project. The course covers general principles of measurement of construction work, focusing on sound estimating procedures, application and importance of estimating in the project life cycle.

The course emphasizes specific methods of measurement, quantity surveying and the use of estimating forms for earthworks, masonry, above-grade concrete, wood frame, and structural steel work items.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 42

Semester 2

Course Title: Introduction to Calculus for Construction
Course description: This course focuses on exponential and logarithmic functions as well as the use of differential equations. The course also explores integral calculus and its application to construction scenarios. Vectors and their components and application in relation to force and motion are also addressed.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 56

Course Title: Introduction to Architectural and Engineering Design
Course description: The purpose of this course is to provide students with a foundational understanding of architectural and engineering theory as it relates to the construction industry. Topics covered include architecture and engineering history, specifically how the discipline came to be, the roles and responsibilities within the discipline, and basic principles of design and construction such as responsible design theory.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Business Foundations
Course description: This course covers a wide variety of fundamental topics that relate to management micro and macro-economic principles. The course focuses on the factors that affect the success of businesses in Canada from an historical point of view. Learners review the entrepreneurial spirit and character it takes for individuals to start their own business and the marketing principles required for business promotion. This course also explores different types of businesses and the way they compete in the global economy today. The course introduces management techniques, business planning, as well as ethical business practices and organizational theory. This course is an introduction to the successful management of financial resources through business accounting techniques.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 42

Course Title: Construction Estimating II
Course description: This course builds upon the foundation principles for estimating materials, labour and equipment including advanced principles of project definition and scoping, input requirements and estimating for a construction project. The course covers general principles of measurement of construction work, focusing on sound estimating procedures and application for quantifying mechanical, electrical and exterior systems, as well as miscellaneous work items within the project life cycle.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 42

Semester 3

Course Title: Building Information Modelling I: Drafting and Drawings
Course description: The main objective of this course is to familiarize students with the tools needed to create a model and to document a project using Revit structure. This course deals with the techniques and standards required to communicate graphically. Students' abilities to interpret and read architectural and construction plans, drawings, terminology, scales, symbols, and specifications used in residential and industrial, commercial, and institutional (ICI) construction are explored. The course covers the basic principles of Revit Structure Technology and Building Information Modelling (BIM). Revit structure 2017 is demonstrated with extensive hands-on experience in a computer lab. Different topics are covered such as the advantage of BIM, Revit interface, modelling tools, and building structure elements including columns, beams, beam systems, floors, foundation, reinforcement, Toposurface, annotations, detailing, sheets, and printing.
Instructional Setting: Classroom
Total Hours (Semester): 56

Course Title: Materials Science and Testing
Course description: Students learn about the importance of understanding how materials react to the environment in which they are used. This theory and practice course lays the necessary foundation for understanding the science behind internal axial load, shear, and bending on simple structural material. The effects on materials are expressed quantitatively in terms of stress and strain using mathematical and physical analysis through testing. Students assess the adequacy of beams, columns, and shafts to theoretically predict various failure modes based on standards. Students carry out a number of experiments that help them to understand and visualize how structural materials and soils behave under various conditions.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 56

Course Title: Construction Planning and Scheduling
Course description: This course introduces students to the various concepts and tools for construction planning, scheduling, and control using network methods of project scheduling, such as AOA, AON PERT, bar-charting, line-of-balance, and VPM techniques in order to effectively manage project deliverables. Current concepts and computer applications are used for scheduling, recommendations, resource allocation, and time/cost analysis.
Instructional Setting: Lab
Total Hours (Semester): 42

Course Title: Foundations of Project Management
Course description: This course provides the theory and concepts for students to plan, organize, and manage resources and to take a leadership role in the successful completion of a specific project for a client. Bringing a project in on schedule, on budget, and up to design standards are key components of the course, which includes discussion of the skills, tools, and the techniques needed to manage projects successfully as part of a team through effective communication (oral and textual) throughout a project life cycle. Students apply cost-control practices, assist with planning, sequencing, phasing, and scheduling of work for projects, as well as assist in preparing project status reports for review and recommendation to clients. Safety plans

compliant with the Ontario Health and Safety Act, as well as professional ethical practices are an important component of the course.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 4

Course Title: Building Information Modelling 2: Advanced
Course description: This course provides practical applications of advanced Building Information Modelling (BIM) practices in architecture, engineering, and construction (AEC) design processes as well as the stages of estimating/defining the requirements of a construction project. Specific focus on BIM as a management tool during construction project delivery is examined, using hypothetical and actual construction projects and scenarios.
Instructional Setting: Lab
Total Hours (Semester): 42

Course Title: Building Structures
Course description: Students explore the theory and design concepts of different construction systems and practices used for residential, industrial, commercial, and institutional purposes in the Canadian construction industry by researching previous projects and plans. Students are further introduced to various framing techniques, components, and systems used in the industry including concrete, steel, and timber construction as well as how to determine a foundation system based on soil type. Concepts in this course include loading on structural members, structural details, and construction requirements.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Quality Assurance/Quality Control in Construction
Course description: Quality Assurance (QA) and Quality Control (QC) are extremely important aspects of any construction project without which successful completion of the project can't be imagined. This course starts with the history of quality assurance and control to provide the analytical theory behind quality concepts. The course covers general QA and QC Policy, and the QA/QC Manager's Responsibilities. Students learn about the following topics: site procedures, inspection and testing, use of statistics, inspection planning, material procurement and storage, procurement process, civil materials storage, quality control planning, concrete mixing and testing, layout of work, work by subcontractors, reinforcing steel, ISO standards, inspection to meet all requirements for project close-out, civil QC records and reports, QA/QC meetings, and QA/QC reviews.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Building Science and Systems
Course description: This course addresses the design overview of various building systems for houses and larger buildings including heating, ventilation, air conditioning, plumbing, water, waste, fire control, security, and electrical systems. The technical and theoretical principles of the physical science of building infrastructures as it specifically relates to human comfort such as thermal and moisture considerations are addressed. The focus of the course is to provide a fundamental understanding of the components

that are important to functionality and safety. Public safety issues are also discussed in terms of technical requirements.
Instructional Setting: Lab
Total Hours (Semester): 42

Course Title: Field Placement Preparation
Course description: This course is designed to prepare students for their field placement experience. Students will learn about the roles and responsibilities of those in the field of construction management, the various companies and organizations in which they are employed, and the placement opportunities available that will facilitate progression towards their professional goals and aspirations. Students will be introduced to placement search techniques, field placement learning objectives, roles of company supervisors, and college advisors. To succeed in this course, students will complete the necessary forms and paperwork required for field placement as well as participate in the selection process for field placement.
Instructional Setting: Classroom
Total Hours (Semester): 14

Field Placement (Spring/Summer)

Course Title: Field Placement
Course description: The field placement work integrated learning experience is viewed as an integral part of the degree program. The practical aspects of field work, in conjunction with the academic studies, enables the student to better understand methods and techniques for organizing activities and working collaboratively with people. Field experiences contribute to meeting the program learning outcomes in a different manner than in an academic setting.
Instructional Setting: Field
Total Hours (Semester): 420

Semester 5

Course Title: Construction Organizational Behaviour
Course description: This course provides a study of the history, theories, principles, and practices of supervision in organizations. Emphasis is placed on how supervisors organize an effective work unit, initiate change, stimulate individual or group performance, and cope with workplace dynamics. Effective oral communication skills are stressed and practiced.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Introduction to Construction Law
Course description: This course is an introduction to the principles of contract law as they relate to the construction industry. The various types of construction contracts, including labour contracts, and bidding documents are introduced and examined. This subject introduces standard forms which are used in the construction industry and issued by the Canadian Construction Documents Committee and the Canadian Construction Association. Concepts such as insurance, liability, tort law, construction bonding, warranties and guarantees, and the Construction Lien Act are addressed along with project close-out. Professional ethics as they relate to the discipline as well as alternative dispute resolution (negotiation) and various contract types are covered.

Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Construction Costs and Bidding
Course description: Successful financial and cost management of construction projects within budget, deadlines, and resource limitations is essential to construction management. This course emphasizes cash flow, overhead, trends, accounting functions, and projections in cost-control theory. Students apply quantity surveying principles to further develop and learn pricing, bidding, and tendering as well as project cost-control techniques when recommending alternatives in construction projects. Through practical assignments and a two-phase project allow the student to demonstrate and apply cost-control techniques. These essential principles of estimating quantity and price for materials, equipment, and labour considerations are developed with practical assignments that prepare students for a bid submission of a construction project in the National Bid Competition held by the Construction Institute of Canada (TCIC) in Semester 6.
Instructional Setting: Lab
Total Hours (Semester): 56

Course Title: Research Methods
Course description: The course introduces students to the research process and its main activities, including hypothesis formulation and data collection and analysis, literature review, etc. within quantitative, qualitative, and mixed methods approaches to research. The students will gain the knowledge and skills required for critically evaluating published research, conducting their own research projects, and understanding the importance of research ethics and integrating it into the research process.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 6

Course Title: Management of Construction Sites
Course description: This course includes the theory and practice of construction site supervision, leadership, and management as applied in the construction industry. Students learn the processes involved in controlling a project, planning managerial activities, as well as organizing jobs, duties, deliverables, and resources as part of a multi-disciplinary team. This course uses case studies and in-class discussions to help learners explore direct on-site activities and how to communicate instructions to employees as well as the wide range of activities required of a site superintendent (such as worksite control, purchase orders, material control, budget control, cost control, estimating, contract control, progress reports and scheduling).
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Building Codes and Regulations
Course description: This course is designed to familiarize students with the concepts and details of the Ontario Building Code (OBC). Students study how the Building Code was crafted, as well as the regulatory and compliance requirements at each government level (municipal by-laws, provincial legislation, and federal law). The uses of the objective based code format used in the National Building Code and the OBC is a component of this course. This course focuses on the functionality of OBC Act and

differences between its parts. The classification of buildings based on size, height, and occupancy are studied as specified in Part 9 and Part 3 of the OBC. This course also explores accessibility from the OBC as it relates to AODA requirements. Building system requirements for new construction are reviewed along with the change of use and renovation objectives for existing buildings.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Project Accounting Control
Course description: This course aims to provide students with knowledge and application of theory to have an effective cost-control system to achieve the estimated profit on projects and to monitor and predict results of project deliverables through the use of accounting principles. Students explore the techniques used to control costs, with an emphasis on financial statements, financial ratios, applications of engineering economy, cash flow analysis, financing, and cost information systems. These essential principles of project cost control are developed through a project which students will submit at the end of the semester.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 56

Course Title: Integrative Project Studio
Course description: In this course, students practice and apply knowledge and skills to successfully complete a construction project through the project lifecycle as part of a team. Students work with a prime consultant, an owner of a project, where they will have to construct a project in a team setting. Students apply knowledge of construction procurement and risk management, as well as contract administration. Students use research about construction materials, theory, and methods in order to successfully bring their project to completion. Problems that arise during the life cycle of the project provide and involve student's technical, analytical, and creative skills.
Instructional Setting: Classroom and Lab
Total Hours (Semester): 56

4. Strategic Alignment

4.1 Strategic Fit

The proposed program aligns with the following goals of the Academic, Strategic, and Business Plans.

Academic Plan
Goal 1: Ensure Exceptional Quality in our Academic Programs
Goal 2: Enhance Exemplary Teaching and Learning Practices
Goal 3: Establish and Augment Internationalization and Global Engagement Initiatives

Strategic & Business Plans
Pillar: Our Students
Goal: To educate and inspire students to realize success in their careers and communities.

The proposed program represents an opportunity to prepare a cohort of professionals to meet a growing demand for employees in the construction industry. This is an industry that is predicting a labour shortage over the coming years to which this program will support demand.

The Academic Plan ensures DC is ready to respond to constantly changing student populations' expectations, employer needs, professional practices and workplace technologies. The proposed BCM program responds to the changing needs of employers, the broader industry and communities. Specifically, the development of the proposed program focuses on Goal 1: Ensuring exceptional quality in our academic programs through the development of new programs including degrees.

4.2 Fit with Existing Ontario College and University Programs

Currently, there are no construction management programs offered as baccalaureate degrees at Ontario universities. The University Toronto offers a master's degree in civil engineering, with the option to specialize in construction management; however, college-trained graduates are better prepared to meet the growing labour market demand due to the primary focus on construction management and the wide range of experiential opportunities available at the college level.

In the college sector, DC holds a ministerial consent for an Honours Bachelor of Construction Management program, and George Brown College offers an Honours Bachelor of Technology (Construction Management). In addition, several CAAT institutions offer four-year Bachelor of Business Administration (Trades Management) programs. The proposed program will be the first three-year baccalaureate option for students in Ontario and presents the opportunity for expedited entry into industry or a pathway into further education, depending on the career goals of the student.

Outside of Ontario, a small number of Canadian colleges and universities offer degree level credentials in construction management. Red River College offers a program in construction with four academic exit points leading to different credentials. The four potential end destinations for students at Red River College are: Civil Technology certificate, Construction Technician certificate, Construction Technology diploma, and Construction Management degree.

Additionally, the British Columbia Institute of Technology (BCIT) and the Northern Alberta Institute of Technology (NAIT) offer construction management degrees as completion programs, open to individuals with two previous years of post-secondary education in construction related programs. The Southern Alberta Institute of Technology (SAIT) offers a Bachelor of Science in Construction Management, and the University of the Fraser Valley offers a Bachelor of Business Administration in Trades Management.

5. Labour Demand and Graduate Employment Possibilities

Based on the environmental scan, it is expected that the BCM program would be a strong addition to DC's program offerings. The degree will provide graduates with the in-depth technical and industry knowledge and project management skills necessary to coordinate residential and non-residential construction projects, while expediting entry into the workforce.

After a review of the need for the BCM program, DC determined it would be valuable to add this degree to its postsecondary offerings because of the:

- Shortage of skilled workers in the construction industry.
- Increased investment in non-residential construction, creating numerous opportunities for construction management employment.
- Construction activity in Ontario, accounting for roughly half in the Greater Toronto Area (GTA).
- Opportunity for individuals with prior education or professional construction or trades experience to develop the skills necessary to move into management roles.
- Pathway to DC's four-year Honours Bachelor of Construction Management and synergy with construction related trades programs at DC.

5.1 Labour Market Analysis

As construction projects become increasingly complex, delivering them on time and on budget becomes more challenging. A recent survey of construction project owners in North America found that roughly 77 per cent of construction projects were delivered late and approximately 75 per cent were over-budget[2]. Although many factors contribute to a project being late or over-budget, inefficiencies due to a lack of proper management is a major contributing factor[3]. Every construction project involves multiple stakeholders, including architects, engineers, general contractors (who oversee the day-to-day construction activity) and trades sub-contractors (i.e., electricians, HVAC technicians, plumbers, etc.). Each stakeholder is responsible for completing a specific part of the construction project and a delay in one aspect of the project, or a lack of communication and coordination between stakeholders can negatively impact the success of the entire project. As such, reducing inefficiencies in the construction process through effective project management is critical to the successful completion of construction projects.

The need for project management in the context of the construction industry became clear following World War II as the industry shifted from construction activity that supported the war effort to construction activity that supported the development of critical infrastructure such as schools and hospitals[4]. Without proper management, many of these large critical infrastructure projects faced

[2] Gismondi (2021)
[3] Gilliland Construction Management (2019)
[4] Heery (2011)

significant delays and unexpected costs. As a result, project owners began to seek the services of individuals with the knowledge and skills necessary to help ensure that projects were delivered on-time, on-budget and in accordance with the owner's specifications. Initially, this role in the construction process was referred to as either Construction Management or Construction Project Management, with the two terms often being used interchangeably.

In the current labour market, individuals with skills related to the management of construction projects are employed in a wide range of positions including Construction Manager, Construction Project Manager, Project Coordinator, Estimator, Site Supervisor, Site Superintendent and Building Inspector. In this discussion the terms "Construction Manager" and "Construction Management" are used broadly to encompass all positions which require the application of project management skills in the context of the construction process. Construction Managers drive efficiency in the construction process by carefully planning, coordinating and monitoring the execution of a construction project[5]. Construction Managers have a wide range of responsibilities including creating budgets and schedules, applying for building permits, creating site plans, arranging inspections, procuring materials and labour, coordinating the activities of different stakeholders and monitoring the project for compliance with relevant regulations[6].

Scope, cost and schedule are the three main constraints of any construction project and are often referred to as the project management triangle[7]. The ideal project results in the highest quality at the lowest cost and in the least amount of time possible; however, this can be difficult to achieve. Effective construction managers are able to balance these three project elements to maximize value for the project owner. Clearly identifying the scope of a project early on in terms of expectations, technical requirements and the exact responsibilities of everyone involved is essential for reducing the likelihood of costly changes or delays later in the project. Having a clear idea of project scope allows the construction manager to prepare a comprehensive budget that considers all of the different fees the owner is likely to incur as well as an appropriate contingency fund for unexpected expenses. A solid understanding of project scope also allows the construction manager to develop a detailed and accurate project schedule, ensuring the timelines proposed by contractors during the bidding process are realistic based on the technical requirements of the project. By applying their expertise in the construction process, construction managers can identify the ideal order in which aspects of the project should be completed and monitor the progress to identify deviations from the schedule and adjust by considering the impact to the project's scope and cost.

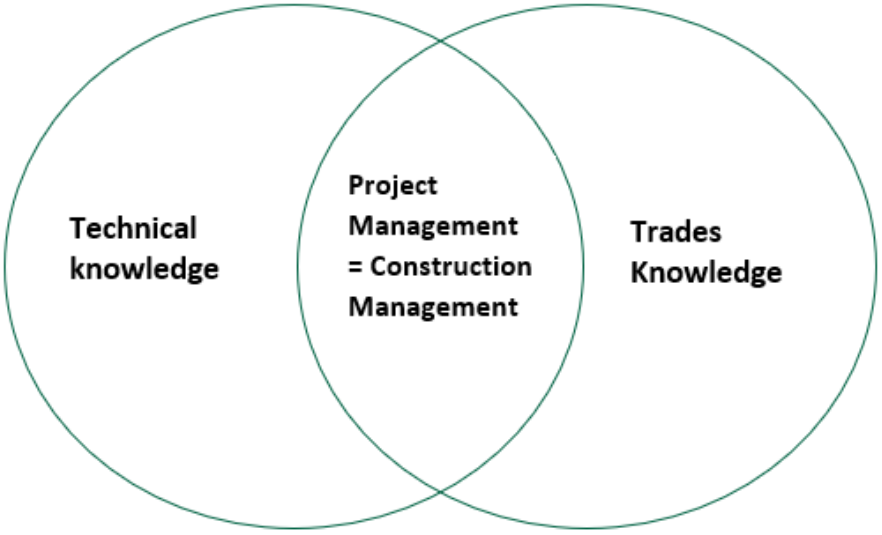
Key Competencies of Construction Managers

Construction managers must possess both in-depth knowledge of the construction process and knowledge of a wide range of trades in order to be able

[5] Gilliland Construction Management (2019)
[6] Nuwan et al. (2020)
[7] Stonemark Construction Management, https://stonemarkcm.com/blog/top-3-issues-construction-scope-cost-schedule/

to successfully coordinate the activities of different stakeholders and contribute to the timely completion of construction projects. The figure below illustrates the key areas of competence related to construction management.

Figure 1



Technical Knowledge

Construction projects generally have four key phases: planning, pre-construction, construction and close-out. Individuals with construction management skills play an important role in each of these phases[8]. During the initial planning stage individuals with construction management skills are essential for identifying the project deliverables, determining the feasibility of the project and researching different methods of project delivery. The pre-construction stage requires construction managers to prepare project budgets, oversee the hiring of construction teams, create detailed schedules and manage the procurement of materials. During the construction phase, individuals with construction management skills are vital for coordinating the work of different teams, reviewing and approving technical documents, monitoring the execution of the project and identifying deviations from the budget, schedule or expectations of the owner. Finally, in the close-out phase, construction is complete and management is turned over to the project owner. Construction Managers are essential for ensuring that all proper documentation related to the project is completed, compiled and provided to the owner.

The successful completion of these tasks requires in-depth technical knowledge spanning all aspects of the construction process. For example, identifying project deliverables and determining the feasibility of a project requires knowledge of construction methods, materials and equipment, construction project estimating and architectural engineering and design, as well as skills in building information modelling to develop an accurate understanding of the required materials, labour

[8] Procore, What is Construction Management, https://www.procore.com/en-ca/article/what-is-construction-management

and associated costs. Overseeing the procurement of materials and labour also requires knowledge of building information modelling and construction methods, materials and equipment but also knowledge of construction planning, scheduling, costing and bidding. Together, this knowledge allows construction managers to obtain materials and equipment from suppliers and acquire the services of different contractors and crews at the right price point and at the right time throughout the construction process. Finally, throughout the process, construction managers are responsible for submitting necessary building permits and applications, documenting the work being completed and monitoring compliance with relevant regulations and laws. This requires a solid understanding of standard construction forms and contracts, building codes, safety regulations, construction laws and quality assurance and control methodologies.

Knowledge of the Trades

Construction managers are often responsible for coordinating the activities of the different stakeholders involved in increasingly complex and costly construction projects. As a result, construction managers require knowledge of a wide range of trades to be able to successfully perform their role. Trades knowledge helps inform construction managers when determining the project schedule and making decisions about workflow, translating blueprints, documenting work completed and coordinating site inspections. As the construction manager often engages with suppliers, knowledge of individual trades informs good practice in procuring the materials necessary to complete a project.

Trades knowledge is more than just a simple awareness of the different teams involved in a project. Each trade involved in a construction project is likely to have different priorities, communication needs and regulatory requirements. Construction Managers need to have a deep understanding of the needs and requirements of each trade and be able to apply this knowledge to ensure that every team has the resources and information they need to complete their part of the project as efficiently as possible. Breakdowns in communication can be a major barrier to the successful completion of a construction project; as a result, construction managers need to be able to facilitate effective communication and resolve miscommunications or misunderstandings between teams quickly to avoid costly mistakes or delays[9].

National Trends

The construction industry is one of Canada's largest industrial sectors, employing roughly 1.4 million people, contributing $141 billion to the economy annually and accounting for approximately 7.5 per cent of the country's total gross domestic product (GDP)[10]. The industry is made up of mostly small construction firms, with 62 per cent of construction companies being classified as micro-businesses with fewer than five employees[11]. Although the construction industry was adversely

[9] Gilliland Construction Management (2019)
[10] Canadian Construction Association (2022), https://www.cca-acc.com/about-us/value-of-industry/
[11] BuildForce Canada Report (2022)

impacted by the COVID-19 pandemic in 2020 due to lay-offs, site closures, supply-chain issues and increased material costs, the sector quickly rebounded in 2021 due to substantial increases in investments into residential construction and major infrastructure projects. Between 2019 and 2021 investment in the construction industry increased by 10 per cent. By January 2023, total investment in building construction in Canada reached $20.4 billion, with most of this investment ($14.9 billion) coming from the residential construction sector[12].

According to a labour market report released by BuildForce Canada in 2022, residential construction, is expected to decline slightly between 2023 and 2027 as changes in the housing market weaken demand for new homes[13]. However, this will be offset by increased growth and investment in the non-residential construction sector. In 2023, businesses and governments are expected to invest $319.9 billion into non-residential construction projects, machinery and equipment, a 4.3 per cent increase compared to 2022[14]. For example, the Community Infrastructure Improvement Fund (CIIF) has set aside $150 million for repairs and improvements to community infrastructure across the country[15]. Additionally, the Investing in Canada Plan includes over $180 billion (CAD) in key infrastructure improvements over the next ten years including public transit, affordable housing, green energy and developing rural communities.

This rapid increase in investment in the construction industry in 2021 and 2022 has created recruitment challenges for construction firms across the residential and non-residential sectors as increases in demand have substantially outpaced increases in supply[16]. It is projected that between 2022 and 2027, construction demands will require the labour market to expand by 15,850 workers. Additionally, retirements are expected to reach their highest levels over the next two years as 156,000 “baby boomers” (13 per cent of the labour force) retire. Thus, when considering the number of workers needed to fill positions arising from both construction demand and the retirement of existing workers, the construction industry will need to recruit roughly 171,850 new workers between 2022 and 2027. The industry is expected to recruit approximately 142,850 new entrants under 30 during this period to offset demand leaving a shortage of roughly 29,000 workers by 2027.

Provincial Trends

The Ontario construction industry employs roughly 534,000 individuals, about one-third or 37.5 per cent of Canada’s total construction industry[17]. In 2021, the construction industry was the fourth largest lector in Ontario, behind the real estate, manufacturing and finance and insurance sectors, accounting for 7.7 per cent of Ontario’s total GDP[18]. Between 2010 and 2021, investments in

[12] Statistics Canada, Construction Statistics (2023)
[13] BuildForce Canada Report (2022)
[14] Statistics Canada, Construction Statistics (2023)
[15] Randstad Construction Sector Spotlight (2022), https://www.randstad.ca/job-seeker/career-resources/working-in-canada/trends-in-canadas-construction-industry/
[16] BuildForce Canada Report (2022)
[17] Government of Canada Job Bank, https://www.jobbank.gc.ca/trend-analysis/job-market-reports/ontario/sectoral-profile-construction
[18] BILD Association Report (2022)

residential and non-residential construction in Ontario increased from $53 billion to $62 billion, with $42.8 billion being invested in residential construction. Similar to the national level, growth in residential construction will likely slowdown in 2023 and 2024 due to increased cost of materials and a projected decline in house sales. However, increasing immigration continues to provide support for residential construction in Ontario, suggesting that a small amount of growth in the residential construction sector in the province is still likely[19]. The non-residential construction sector in Ontario is expected to continue to experience rapid growth through to 2024 due to large investments in major infrastructure projects.

Ontario's population is expected to grow 30 per cent by 2041[20]. To accommodate the province's growing population, the provincial government has committed $184 billion between 2016 and 2026 to support the renovation, expansion and creation of schools, hospitals, public transit, roads and bridges, and access to high-speed internet. Additionally, Ontario is home to four of the five largest public sector infrastructure projects under development in Canada, including the GO Rail Expansion in the Greater Toronto and Hamilton Area ($15.7 billion), Bruce Power Refurbishment ($13 billion), Darlington Nuclear Refurbishment ($12.8 billion) and the Eglinton Crosstown LRT ($12.5 billion)[21].

The numerous residential and non-residential construction projects being conducted across the province are creating significant employment opportunities within the industry. Employment increased by 3.7 per cent in 2021 and is expected to continue to grow[22]. By 2027 it is expected that the construction industry in Ontario will require roughly 15,500 new workers to keep up with increasing demand and another 56,300 to account for the retirement of existing works for a total of 71,800 new workers. However, during this period, it is projected that only 53,000 new employees will be recruited creating a shortage of 18,800 workers in Ontario by 2027.

The GTA is Ontario's largest construction market accounting for about half of the construction activity in the province between 2010 and 2021[23]. The construction industry in the GTA contributes roughly $60 billion to the overall economy of the region as the result of direct construction spending and additional consumer spending by those employed in the industry. It is projected that the construction industry in the GTA will need to grow by 9,900 workers or six per cent between 2022 and 2027 in order to keep up with increased demand[24]. This growing labour market demand is the result of a large number of major public transit, health care, infrastructure and utility projects planned in the region such as the Eglinton Cross Town LRT, Darlington Nuclear refurbishment, GO Rail Expansion, Ontario Subway Line and SickKids Hospital expansion (Project Horizon)[25]. Accordingly,

[19] Government of Canada Job Bank, https://www.jobbank.gc.ca/trend-analysis/job-market-reports/ontario/sectoral-profile-construction
[20] Government of Ontario, Infrastructure Plan (2016), https://www.ontario.ca/page/building-ontario
[21] Top 100 Projects (2022). https://top100projects.ca/browse-top100/
[22] Government of Canada Job Bank, https://www.jobbank.gc.ca/trend-analysis/job-market-reports/ontario/sectoral-profile-construction
[23] BILD Association Report (2022)
[24] BuildForce Canada Report (2022)
[25] Top 100 Projects (2022). https://top100projects.ca/browse-top100/

investment in industrial, commercial, and institutional (ICI) construction and engineering is expected to increase by 18 per cent during this period. Over this period, the construction industry in the GTA will also need to recruit an additional 26,000 workers to offset the retirement of existing workers.

Regulatory Bodies, Other Associations and Affiliations

- Canadian Construction Association (CCA)
- Canadian Institute of Quantity Surveyors (CIQS)
- Chartered Institute of Building (CIOB)
- Construction Institute of Canada (CIC)
- Construction Specifications Canada (CSC)
- Council of Ontario Construction Associations (COCA)
- Ontario Association of Architects (OAA)
- Ontario General Contractors Association (OGCA)
- Royal Institution of Chartered Surveyors (RICS)
- Toronto Construction Association (TCA)

National Occupational Classification (NOC): Analysis

The following discussion presents three occupations relevant to the field of Construction Management. The National Occupational Classification (NOC) provides a standardized framework for organizing the labour force in a coherent system. Statistics Canada has updated the NOC classifications in 2021 to provide a finer and more updated reflection of the labour market using five digits instead of four for the NOC codes and corresponding it to the updated six-category training, education, experience and responsibilities (TEER) system.

Despite this update, many sources of labour market information have not yet transformed their database from the 2016 NOC structure to the 2021 NOC structure. Hence the following description identifies the relevant 2016 and 2021 equivalencies below but the discussion in the section relies upon the 2016 framework.

The following three NOC codes have been identified as relevant for employment in this area and are presented below both with the 2016 NOC number and title as well as the equivalent 2021 NOC number(s) and title(s).

- 0711 (2016) – Construction managers to 70010 (2021) Construction managers (e.g., junior project manager, junior project coordinator, residential construction manager, assistant construction manager);
- 2234 (2016) – Construction estimators to 22303 (2021) Construction estimators (e.g., construction estimator, professional quantity surveyor);
- 7205 (2016) – Contractors and supervisors, other construction trades, installers, repairers, and servicers to 72014 (2021) Contractors and supervisors, other construction trades, installers, repairers, and servicers (e.g., roofing/bricklaying/cement finishing/tile setting/etc. contractor, supervisor, or foreman/woman).

Labour Market Outlook
Occupational Classification: National

The Table below displays wages, occupation statistics and the employment outlook for occupations relevant to construction management in Canada.

Wages, Occupational Statistics and Employment Outlook (National)					
2016 NOC Code - Occupation	**Median Wage[26]**	**Employment in 2018**	**Median Age in 2018**	**Average Retirement Age in 2018**	**Outlook to 2028**
0711 – Construction Managers	$40.87	86,500	44	64	Balance
2234 – Construction Estimators	$32.75	21,400	43	61	Balance
7205 – Contactors and Supervisors, Other Construction Trades	$35.00	65,900	44	64	Balance

Source: Government of Canada Job Profiles https://www.jobbank.gc.ca/trend-analysis/search-occupations, accessed March 2023

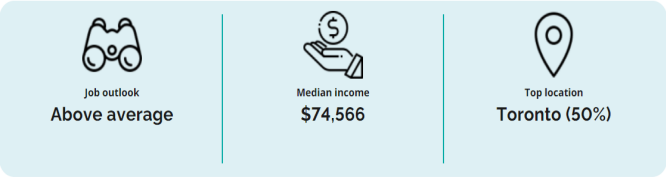
The median wage for all three occupations is significantly above the national average for all occupations. For all three occupations, a balanced labour market is projected through to 2028 (please note, these projections were completed prior to the COVID-19 pandemic). Lay-offs, site closures and supply-chain issues because of the COVID-19 pandemic led many older workers to accelerate their retirement plans and younger workers to leave the industry in pursuit of different opportunities[27]. This unexpected decline in the labour force paired with the substantial increase in investments in residential and non-residential construction following the pandemic has created labour market shortages that may not be captured fully in these projections.

Provincial Outlook
Occupational Classification: Provincial

Figure 2 displays the provincial job outlook rating (2021-2025) and median income for occupations relevant to construction management.

Figure 2

0711 – Construction Managers



[26] Average Median Wages - All occupations at National level = $27.88 (October 2022, Labour Force Survey)
[27] BuildForce Canada Report (2022)

2234 – Construction Estimators	Job outlook: Above average	Median income: $69,090	Top location: Toronto (46%)
7205 – Contactors and Supervisors, Other Construction Trades	Job outlook: Average	Median income: $52,424	Top location: Toronto (46%)

Source: MCU Ontario Job Profiles, accessed March 2023, https://www.services.labour.gov.on.ca/labourmarket

The provincial outlook for relevant occupations is most favourable for Construction Managers and Construction Estimators. The top location for employment for all three occupations is Toronto.

Additional labour market information is available through the Government of Ontario Job Profiles for select NOC codes. Table 8 presents summary job profile statistics provided by the Government of Ontario for all three NOC codes.

Table 8

Provincial Summary Job Profile Statistics					
2016 NOC Code - Occupation	**Males[28]**	**Females**	**Full-Time**	**Part-Time[29]**	**Self-Employed[30]**
0711 – Construction Managers	88%	12%	73%	27%	31%
2234 – Construction Estimators	87%	13%	78%	22%	12%
7205 – Contactors and Supervisors, Other Construction Trades	94%	6%	62%	38%	52%

Source: MCU Ontario Job Profiles, accessed March 2023, https://www.services.labour.gov.on.ca/labourmarket

Data for all three occupations indicate a greater proportion of males in the field, and a higher-than-average proportion of part-time work, with this proportion being highest for Contractors and Supervisors, Other Construction Trades. Contractors and Supervisors, Other Construction Trades and to a lesser extent Construction Managers have a high proportion of self-employment.

[28] Average Male to Female Ratio – All occupations in Ontario = 53%/47% based on Working in Canada (2021, Labour Force Survey)
[29] Average Part-Time work – All occupations in Ontario = 17% (2021, Labour Force Survey)
[30] Average Self-Employment – All occupations = 15% based on Working in Canada (2018, Labour Force Survey)

Educational Attainment

Table 9 displays the education level of employees in relevant occupations in Ontario.

Table 9

Educational Attainment			
Education Level	**0711 – Construction Managers**	**2234 – Construction Estimators**	**7205 – Contactors and Supervisors, Other Construction Trades**
No certificate, diploma or degree	8%	5%	21%
Secondary (high) school diploma or equivalency certificate	24%	18%	35%
Apprenticeship or trades certificate or diploma	11%	10%	17%
College, CEGEP or other non-university certificate or diploma	29%	37%	18%
Bachelor's degree	20%	22%	6%
Degree in medicine, dentistry, veterinary medicine or optometry	0%	0%	0%
Master's degree	4%	3%	1%
Earned doctorate	0%	0%	0%
Other	4%	4%	2%

Source: MCU Ontario Job Profiles www.services.labour.gov.on.ca/labourmarket, accessed March 2023

There is currently variation in the educational background of individuals in occupations relevant to the proposed program. This highlights the traditional emphasis on work experience when hiring for these positions; however, the growing labour market demand will require the construction industry to recruit from more non-traditional sources, with graduates of construction management bachelor's degree programs being particularly qualified to fill these positions.[31]

Employment Share

Table 10 presents provincial employment opportunities for each relevant occupation. Within each column, the per centages indicate the distribution of all individuals employed in the corresponding occupation across the select census divisions.

[31] Toronto Board of Trade, Talent Study (2016)

Table 10

Employment Share by Census Division				
Census Division	**All Occupations**	**0711 – Construction Managers**	**2234- Construction Estimators**	**7205 – Contactors and Supervisors, Other Construction Trades**
Durham	**5%**	6%	5%	6%
Toronto	**21%**	18%	16%	17%
Peel	**10%**	9%	9%	9%
York	**9%**	12%	12%	9%
Peterborough	**1%**	1%	1%	1%
Northumberland	**1%**	1%	1%	1%
Kawartha Lakes	**1%**	1%	1%	1%
Ottawa	**7%**	7%	7%	5%

Source: MCU Ontario Job Profiles, accessed March 2023, www.services.labour.gov.on.ca/labourmarket

Toronto and the surrounding area have the highest concentration of all three occupations. This indicates a significant number of individuals working in these occupations in the GTA.

Table 11 displays the sectors in which the relevant occupations are located.

Table 11

0711 – Construction Managers		2234- Construction Estimators	
81%	Construction	**78%**	Construction
6%	Professional, scientific and technical services	**10%**	Professional, scientific and technical services
3%	Public Administration	**4%**	Wholesale trade
7%	All other industries	**4%**	All other industries

7205 – Contactors and Supervisors, Other Construction Trades	
89%	Construction
4%	Administrative and support, waste management and remediation services
1%	Professional, scientific and technical services
4%	All other industries

Source: MCU Ontario Job Profiles, accessed March 2023, https://www.services.labour.gov.on.ca/labourmarket

Although most occupations relevant to the proposed program are in the Construction industry, relevant occupations also exist in other industries such as the Professional, Scientific, and Technical Services industry.

Table 12 presents an occupation summary for Ontario and select census divisions for the three NOC codes. The occupation summary includes the number of jobs available in 2020, as well as the projected number of jobs in 2025.

Table 12

Occupation Summary (Ontario and Select Census Divisions) – 2020 & 2025					
Region	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**	**Median Hourly Wages**
Ontario	**39,787**	**44,529**	**4,742**	**12%**	**$38.21**
Durham	1,488	1,590	102	7%	$38.68
Toronto	7,911	8,402	491	6%	$38.78
Peel	4,595	4,933	338	7%	$38.48
York	4,653	5,092	439	9%	$38.54
Peterborough	250	384	134	54%	$35.61
Northumberland	150	221	71	47%	$35.61
Kawartha Lakes	120	197	77	64%	$35.64

Source: Labour Force Survey, Lightcast Analyst 2022.3, accessed: March 2023

Many jobs are likely to be created by 2025 in these three occupations combined, specifically in the Toronto, Peel, York and Durham census divisions. Durham Region is projected to gain 102 jobs over the period, bringing the total number of available jobs in these occupations to 1,590 by 2025. Additionally, these jobs are compensated at rates similar to higher paying urban centres like Toronto. It should also be noted that the per centage change signifying growth is highest in Peterborough, Northumberland and Kawartha Lakes, which are all in close

proximity to the Durham Region, indicating positive labour market outcomes for job seekers able to work in these areas.

Table 13 presents self-employment information for the selected NOC codes.

Table 13

Self-Employment (Ontario and Select Census Divisions) – 2020			
Region	**0711 – Construction Managers**	**2234- Construction Estimators**	**7205 – Contractors and supervisors, other construction trades, installers, repairers, and servicers**
Ontario	**6,809**	**784**	**14,371**
Durham	271	46	528
Toronto	1,228	205	2,173
Peel	639	107	1,339
York	766	124	1,519
Peterborough	19	0	146
Northumberland	24	0	108
Kawartha Lakes	18	0	138

Source: Labour Force Survey, Lightcast Analyst 2022.3, accessed: March 2023

There is a lot of opportunity for self-employment for Contractors and Supervisors, Other Construction Trades and to a lesser extent Construction Managers.

Local Outlook

Occupational Classifications: Region of Durham

Table 14 presents the number of jobs and hourly wages for all relevant occupations within the Durham census division.

Table 14

Durham Region Employment Outlook - 2020 & 2025					
2016 NOC	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**	**Median Hourly Wages**
0711 – Construction Managers	812	875	63	8%	$42.22
2234 – Construction Estimators	259	305	46	18%	$35.54
7205 – Contactors and Supervisors, Other Construction Trades	417	409	-8	-2%	$33.42
Total	**1,488**	**1,590**	**102**	**7%**	

Source: Labour Force Survey, Lightcast Analyst 2022.3, accessed: March 2023

The greatest number of jobs expected in the Durham census division will be in the occupations categorized as Construction Managers.

Industry Summary

The North American Industry Classification System (NAICS) provides a standardized framework for classifying industries present in any given geographic region. Although construction management is often perceived to be concentrated in the larger construction industry, there are similar occupations throughout a number of other industries. The following three have been chosen for discussion:

- NAICS 2389 – Other Specialty Trade Contractors,
- 2361 – Residential Building Construction and
- 2362 – Non-Residential Building Construction.

Table 15 presents the number of employers in each industry by census divisions located close to the Durham Region.

Table 15

Number of Employers in Related Industries Census Division[32]							
NAICS Code – Occupation	**Durham**	**Toronto**	**Peel**	**York**	**Peterborough**	**Northumberland**	**Kawartha Lakes**
2361– Residential building construction	370	1,698	974	1,424	141	110	106
2362– Non-residential building construction	119	464	296	420	16	10	10
2389– Other specialty trade contractors	193	470	403	577	72	37	74
Total	**682**	**2,632**	**1,673**	**2,421**	**229**	**157**	**190**

Source: Canadian Business Patterns, Lightcast Analyst 2022.3, accessed: March 2023

When combining Durham, Toronto, Peel and York there are clearly a significant number of employers in relevant industries in the GTA. Further, employers are most highly concentrated in the Residential Building Construction industry in each census region.

Table 16 presents relevant industry employers located in the Durham census division by number of employees.

[32] NAICS is the agreed upon common framework for the production of comparable statistics by the statistical agencies of the three countries, Canada, Mexico and the United States. Its hierarchical structure is composed of sectors (two-digit code), subsectors (three-digit code), industry groups (four-digit code), and industries (five-digit code).

Table 16

Number of Employers in Durham Census Division (by employer size)								
NAICS Code – Occupation	**1-4**	**5-9**	**10-19**	**20-49**	**50-99**	**100-199**	**200-499**	**500 +**
2361– Residential building construction	273	60	28	7	0	2	0	0
2362– Non-residential building construction	61	24	19	11	2	2	0	0
2389– Other specialty trade contractors	120	37	21	13	2	0	0	0
Total	**454**	**121**	**68**	**31**	**4**	**4**	**0**	**0**

Source: Canadian Business Patterns, Lightcast Analyst 2022.3, accessed: March 2023

The table above indicates there is a greater number of employers of smaller size, with most employers falling into the "1-4" employee category in the Durham Region.

Labour Market Summary and Degree Overview

Labour market demand in the construction industry is expected to be strong for the foreseeable future, with the Toronto Region Board of Trade (TRBOT) identifying Construction Managers as the third most in demand construction job in the GTA (out of 50) between 2016 and 2031[33]. Although the demand for construction managers has been occupied by individuals who acquired this role through long-term progression in their career in the construction industry, high rates of retirement and an increasing number of construction projects are creating a shortage of skilled workers available to fill these positions. As a result, the TRBOT indicates that sourcing from the region's non-apprenticeship post-secondary system will become increasingly necessary as the majority of these occupations require advanced levels of education (often a bachelor's degree) to gain entry to the position.

The proposed BCM program will help address the labour supply shortage by expediting graduate entry into industry in only three years, providing individuals with the necessary technical knowledge, trades knowledge and project management skills to fill entry-level positions in construction management such as Junior Project Coordinator, Assistant Site Superintendent, Junior Estimator and Junior Project Manager. Specifically, the proposed program will focus on providing graduates with core competencies in construction science, project planning, execution, coordination, site management and quality control. Graduates of the proposed degree program will possess the knowledge and skills necessary to collaborate with multi-disciplinary teams and facilitate the completion of residential, industrial, commercial and institutional construction projects from start to finish. For graduates seeking higher level positions or additional education to support career progression, the proposed program will

[33] Toronto Region Board of Trade Talent Study (2016)

provide a pathway into the four-year HBCM degree where greater emphasis is placed on research and advanced critical and analytical thinking.

Important Considerations

Prospective construction managers require a wide range of project management skills that are specifically adapted to the construction industry. These comprehensive skills are typically not developed during traditional construction employment and require additional education and training. Additionally, construction management occupations typically require advanced levels of education, such as a bachelor's degree[34]. As a result, individuals with prior non-degree level education or professional construction or trades experience may opt to pursue a bachelor's degree in construction management to advance their careers.

6. Student Interest

Ontario CAAT institutions have only recently received approval to offer three-year bachelor's degree programs. As a result, there currently are no three-year Bachelor of Construction Management degree programs.

Current Student and Alumni Interest at DC

There is a large pool of students and graduates from programs at DC that could choose to continue their education with the BCM program. Both student and graduate level of interest in the proposed program were further explored through surveys.

Students

"This program will be aligned with the current and future Canadian economic goals. I believe it is a great idea."

A total of 82 students completed a survey assessing their level of interest in the proposed three-year Bachelor of Construction Management degree program. Fifty-nine per cent of respondents are enrolled in the highly related Architectural Technology, Building Construction Technician (includes regular and co-op stream), and Civil Engineering Technician/Technology (includes regular and co-op streams) programs at DC. The remaining 41 per cent are enrolled in various business programs at DC.

All students surveyed, indicated they believe offering a three-year Bachelor of Construction Management degree program is a good idea. Student comments further affirmed this understanding.

[34] Toronto Region Board of Trade Talent Study (2016)

Interest in potential enrolment was highest among students in the Building Construction Technician diploma program (75 per cent) followed by students in the Civil Engineering Technician/Technology diploma/advanced diploma programs (55 per cent) and students in the Architectural Technology advanced diploma program (44 per cent). Student interest in enrolling in the program increased substantially if they were likely to be granted credit transfer. Overall, 90 per cent of Civil Engineering Technician/Technology respondents, 83 per cent of Building Construction Technician respondents and 75 per cent of Architectural Technology respondents indicated they would be more likely to enrol in the degree program if granted credit transfer. Students were also asked when they would be most likely to enrol in the proposed degree program. The majority indicated they would likely enrol either immediately following graduation from their current program (44 per cent) or after one to three years of related work experience (33 per cent).

"The trades sector needs more people. If more schools offer courses like this one which support individuals in gaining the knowledge and leadership skills to run a construction project, then companies would have an easier time recruiting candidates to manage their projects and resources and the trades sector will continue to flourish."

Among the students surveyed, a majority (83 per cent) believe that a Bachelor of Construction Management degree program would make a difference in the number of potential employment opportunities available. Students also believe that the degree will have a meaningful impact on the types of jobs available upon graduation (70 per cent), starting salary (66 per cent), and future promotion opportunities (65 per cent).

Graduates

There was further consultation with graduates of related programs such as, Architectural Technician/Technology[35], Building Construction Technician, and Civil Engineering Technician/Technology. There was limited interest in the proposed degree initially, however, interest increased significantly if there was opportunity for credit transfer. Specifically, 85 per cent of the alumni from the highly related Architectural Technician/Technology, Building Construction Technician, and Civil Engineering Technician/Technology programs indicated that they would likely enrol in the proposed degree program if granted credit transfer.

"The construction industry accounts for a sizeable portion of the country's total GDP and living in Ontario especially within proximity to the ever-expanding GTA, this could aid in obtaining work in the related field."

Alumni

[35] Please note that the Architectural Technician diploma program is no longer offered at Durham College, however it is still offered at other CAAT institutions.

"It is necessary for the Canadian economy. Canada has a significant shortage of highly skilled people in the construction industry."

Alumni were also asked whether they think offering a Bachelor of Construction Management degree program would be a good idea. The majority of alumni surveyed (81 per cent) indicated they believe offering the degree would be a good idea. Alumni comments further affirmed this understanding. Among the alumni surveyed, a majority (72 per cent) believe a Bachelor of Construction Management degree program would make a difference in the starting salary of graduates. Alumni also believe the degree will have a meaningful impact on the types of jobs available upon graduation (64 per cent), future promotion opportunities (64 per cent), and the number of potential employment opportunities available to graduates (60 per cent).

7. Analysis of Competition

Currently, there are only two degree-level programs in construction management in Ontario. George Brown and DC both offer a four-year Honours Bachelor of Construction Management. No three-year degree programs currently exist in Ontario. A three-year Bachelor of Construction Management is likely to be particularly appealing to individuals with previous education or professional experience as it allows them to gain the knowledge and skills necessary for entry-level management roles, while expediting (re)entry into the workforce. A three-year Bachelor of Construction Management also offers greater flexibility to individuals depending on their career goals, as those who do wish to pursue additional advanced education in construction management have the option of entering the fourth year of the Honours Bachelor of Construction Management.

The field of construction management has strong employability outcomes for the foreseeable future. The rapid growth of the residential and non-residential construction industries has created significant demand for graduates with the technical and trades knowledge necessary to coordinate the completion of construction projects; however, there are only a small number of existing programs specific to construction management. The introduction of a three-year construction management program at DC would assist in meeting this labour market demand.

8. Target Market

The target market for this degree program is direct entry from secondary education. Further this program may be of interest to students with an Ontario College Diploma or Ontario College Advanced Diploma from:

- Architecture Technology,
- Civil Engineering Technician/Technology,
- Human Resources – Business/Business Administration,
- Accounting – Business/Business Administration,
- Supply Chain and Operations - – Business/Business Administration and
- Marketing – Business/Business Administration.

9. Operating Revenue and Expenses

The following tables summarize the net contribution for the proposed Bachelor of Construction Management, Ontario Bachelor Degree (3-year) program.

Student Enrolment	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Projected enrolment (Semester 1 Intake, Year 1)	25	25	25	25	25	25	25	25	25
Projected enrolment (Semester 1 Intake, Year 2)	-	21	21	21	21	21	21	21	21
Projected enrolment (Semester 1 Intake, Year 3)	-	-	25	25	25	25	25	25	25
Total Enrolment	**25**	**46**	**71**	**71**	**71**	**71**	**71**	**71**	**71**

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	160,908	320,144	411,621	423,631	436,007	448,762	461,908	475,456	489,422
Total Revenue for Program	**$219,713**	**$409,125**	**$636,075**	**$640,218**	**$644,433**	**$648,719**	**$653,006**	**$657,363**	**$661,721**
Net Surplus (Deficit) for Year - $	**$58,805**	**$88,981**	**$224,454**	**$216,588**	**$208,427**	**$199,957**	**$191,097**	**$181,907**	**$172,299**

New Program Summary

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Accumulated Surplus / (Deficit)	**$58,805**	**$147,786**	**$372,240**	**$588,828**	**$797,254**	**$997,211**	**$1,188,309**	**$1,370,216**	**$1,542,515**
Net Surplus (Deficit) for Year - %	**27%**	**22%**	**35%**	**34%**	**32%**	**31%**	**29%**	**28%**	**26%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Revenue	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Funding Unit Generated (estimated weight – 0.740)	18.5	34.2	52.9	52.9	52.9	52.9	52.9	52.9	52.9
Grant Value per Funding Unit	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149
Tuition Fee for 2 Semesters ($6,354) – Net of TSA	$5,719	$5,833	$5,950	$6,069	$6,190	$6,314	$6,440	$6,569	$6,700
Grant Revenue	$76,748	$141,985	$219,309	$219,309	$219,309	$219,309	$219,309	$219,309	$219,309
Tuition Revenue	142,965	269,775	425,027	433,527	442,198	451,042	460,063	469,264	$478,649
Incidental Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Revenue	**$219,713**	**$411,759**	**$644,335**	**$652,836**	**$661,506**	**$670,350**	**$679,371**	**$688,572**	**$697,958**

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Co-ordinator premium	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225
FT Faculty*	0	99,433	102,416	105,488	108,653	111,912	115,270	118,728	122,290
PT Faculty	78,037	102,563	174,535	179,771	185,164	190,719	196,440	202,334	208,404
Faculty Clerical Support	12,757	13,140	13,534	13,940	14,358	14,789	15,232	15,689	16,160
Classroom Support technicians	12,817	13,201	13,597	14,005	14,425	14,858	15,304	15,763	16,236
Commons'/Library Support Technicians	11,321	11,661	12,010	12,371	12,742	13,124	13,518	13,923	14,341
Total Academic Salaries	**121,157**	**246,222**	**322,316**	**331,800**	**341,567**	**351,627**	**361,989**	**372,661**	**383,655**
Employee Benefits FT Faculty	1,587	26,943	27,703	28,487	29,294	30,125	30,981	31,863	32,771
Employee Benefits FT Support	11,069	11,401	11,742	12,095	12,458	12,831	13,216	13,613	14,021
Employee Benefits PT	12,096	15,897	27,053	27,864	28,700	29,561	30,448	31,362	32,303
Professional Development	0	1,989	2,048	2,110	2,173	2,238	2,305	2,375	2,446
Instructional Costs – Operating	7,500	7,875	8,269	8,682	9,116	9,572	10,051	10,553	11,081
Instructional Costs – Library	5,000	5,100	5,202	5,306	5,412	5,520	5,631	5,743	5,858

New Program Summary

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Membership Dues	0	0	0	0	0	0	0	0	0
Student Supplies for 2 Semesters	2,500	4,718	7,287	7,287	7,287	7,287	7,287	7,287	7,287
Total Academic Expense	**160,908**	**320,144**	**411,621**	**423,631**	**436,007**	**448,762**	**461,908**	**475,456**	**489,422**
Total Expense	**$160,908**	**$320,144**	**$411,621**	**$423,631**	**$436,007**	**$448,762**	**$461,908**	**$475,456**	**$489,422**

* To include Faculty for Placement.

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	**160,908**	**320,144**	**411,621**	**423,631**	**436,007**	**448,762**	**461,908**	**475,456**	**489,422**
Total Revenue for Program	**$219,713**	**$411,759**	**$644,335**	**$652,836**	**$661,506**	**$670,350**	**$679,371**	**$688,572**	**$697,958**
Net Surplus (Deficit) for Year - $	**$58,805**	**$91,616**	**$232,715**	**$229,205**	**$225,500**	**$221,588**	**$217,463**	**$213,116**	**$208,536**
Accumulated Surplus / (Deficit)	**$58,805**	**$150,421**	**$383,135**	**$612,341**	**$837,841**	**$1,059,429**	**$1,276,892**	**$1,490,008**	**$1,698,544**
Net Surplus (Deficit) for Year - %	**27%**	**22%**	**36%**	**35%**	**34%**	**33%**	**32%**	**31%**	**30%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$100,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Public Report

Report Number: BOG-2023-64

To: Board of Governors

From: Dr. Elaine Popp, Executive Vice President, Academic

Date of Report: May 25, 2023

Date of Meeting: June 7, 2023

Subject: New Program of Instruction – Bachelor of Cybersecurity

1. Purpose

To seek approval from the Board of Governors for the following post-secondary program of instruction for Fall 2025 intake:

Bachelor of Cybersecurity

- Credential: Bachelor Degree
- Duration: Three years
- Faculty: Science, Engineering and Information Technology

2. Recommendation

It is recommended to the Durham College Board of Governors:

That in accordance with Report BOG-2023-64, the Bachelor of Cybersecurity degree program be approved.

3. Background

The Bachelor of Cybersecurity will be the only 3-year degree offered in Ontario to address the shortage of skilled cybersecurity professionals and meet labour market demand. Well-established graduate certificate programs in Cybersecurity and Artificial Intelligence (AI) make Durham College (DC) particularly well situated to offer this degree. In addition, DC offers a cluster of diploma and advanced diploma programs, including Computer Systems Technician/Technology, and Computer Programmer/Programming and Analysis; the graduates of these programs will benefit from pathways to the three-year degree in Cybersecurity. The college is also home to the Centre for Cybersecurity Innovation and the AI Hub, two applied research centres that will provide students with numerous opportunities for professional development and practical experience. Graduates of this program will be able to proactively

implement sound cybersecurity practices to mitigate risks and respond quickly to security breaches.

Graduates of the proposed Bachelor of Cybersecurity degree at DC will be well prepared to meet the current labour market demand as they will benefit from the breadth and depth of knowledge provided by a baccalaureate level education, as well as engage in practical applications of knowledge and skills. Several universities in Ontario, including Ontario Tech University (ONTech) in the Durham Region, also offer bachelor's degree programs that prepare graduates for careers in cybersecurity. The majority of these programs are offered as bachelors of information technology, or computer science with a specialization or major in cybersecurity.

DC's Bachelor of Cybersecurity program specifically focuses on meeting the demand for cybersecurity professionals. The program is grounded in the disciplinary fields of computer and software security, programming and networking. The program prepares graduates with problem-solving and practical skills for the assessment of cybersecurity risks, and the mitigation of security threats to protect and defend information, systems, and critical infrastructures.

Graduates of the program will be able to secure networks, applications, databases, operating systems, software and distributed systems from cyberthreats (hacks, viruses, denial-of-service and malware). Hands-on skills in scripting, encryption, ethical hacking, cryptography, risk management, mitigating cyber-attacks and blockchain are emphasized in the program. Graduates will be prepared to manage security risk, apply best practices, policies, standards and guidelines, and integrate advanced security solutions to meet the current and future needs of employers.

The application of knowledge and skills in real-world case studies/scenarios and participation in the mandatory 420-hour work-integrated learning opportunity, bridges the transition from education to industry experience, preparing graduates for employment opportunities in a variety of public and private IT organizations. Career prospects include security engineer, cybersecurity specialist, security/forensic analyst, penetration tester, and auditor.

As per the Ministry of Training, Colleges and Universities' Minister's Binding Policy Directive 3.0, Programs, Framework for Programs of Instruction, the Board of Governors is responsible for approving programs of instruction the college will offer.

It is the role of the Durham College Board of Governors to ensure that programs of instruction are developed and implemented in conformity with the Credentials Framework, and are consistent with provincial program standards where they exist. It is also the responsibility of the Board to ensure that all new and modified

post-secondary programs of instruction lead to one of the following credentials: Durham College Certificate, Ontario College Certificate, Ontario College Diploma, Ontario College Advanced Diploma, Ontario College Graduate Certificate or Bachelor Degree.

We confirm that Durham College is in compliance with all Minister's Binding Policy Directives as noted above, for this new program of instruction.

4. Discussion

As indicated by the environmental scan, it is expected that the proposed three-year Bachelor of Cybersecurity will be a strong addition to DC's program offerings. Graduates of the proposed degree program will possess the technical knowledge and practical problem-solving skills to analyze, mitigate and respond to cybersecurity risks and protect information, systems and critical infrastructures. After a review of the need for the proposed program, DC determined it would be a strong addition to its postsecondary offerings because:

- There is a shortage of skilled cybersecurity professionals to meet the rapidly growing labour market demand.
- Cybersecurity is relevant and increasing in need across all industries in the public and private sectors.
- DC has established research centres, the Centre for Cybersecurity and AI Hub, to offer students numerous opportunities for professional development and hands on experience.
- DC has an existing roster of IT programs that are in demand.
- There is a scarcity of degree offerings in cybersecurity within the CAAT system.

Cyberattacks, are attempts from unauthorized and often malicious actors to gain access to and control of critical data and systems.[1] As organizations become more reliant on internet connected technology, the chance of cyberattack will increase exponentially. The adoption of new technology, such as 5G networks, creates new opportunities for businesses but also leads to new vulnerabilities for malicious actors to exploit[2]. While advances in AI technology give organizations new means of protecting and defending their data and networks, they also provide malicious actors with the means to carry-out more frequent and sophisticated cyberattacks[3]. As a result, the damage caused by cyberattacks is on the rise. In 2021 alone, it is estimated that cyberattacks caused more than $6

[1] Kaspersky, What is Cyber Security? https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security
[2] 2023 Informed: Ten Cybersecurity Trends for the Year Ahead, https://techinformed.com/2023-informed-ten-cyber-security-trends-for-the-year-ahead/
[3] Davies (2022)

trillion USD worth of damage worldwide, roughly double the amount of damage caused by cyberattacks in 2015[4].

Cybersecurity is the practice of defending computers, servers, networks, data, and connected devices from these digital attacks[5]. The implementation of strong cybersecurity principles allows organizations to protect, prevent damage to, and in the event of a security breach, restore, electronic communications systems and the information they contain. However, there are currently not enough skilled cybersecurity personnel to meet labour market demand. In 2022, it was estimated that there were 25,000 unfilled cybersecurity positions in Canada, and 3.5 million unfilled positions worldwide. Despite organizations' best efforts to prevent unauthorized network access, security breaches are inevitable, particularly as the methods employed by hackers and cybercriminals become more sophisticated[6].

5. Financial/Human Resource Implications

The attached Program Summary provides a projected nine-year budget with an account of all capital and human resource requirements.

The proposed new program breaks even in Year 2.

The proposal for the new Bachelor of Cybersecurity will be submitted to the Ministry of Colleges and Universities (MCU) for quality review by the Postsecondary Education Quality Assessment Board (PEQAB) in Fall 2023.

6. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

7. Implications for Ontario Tech University

There are no anticipated implications for Ontario Tech University resulting from the implementation of this new program recommendation. Pathway opportunities at Ontario Tech University will be considered in the future for graduates of the proposed program.

[4] Al-Shibeeb (2022)
[5] Kaspersky, What is Cyber Security? https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security
[6] Davies (2022)

8. Strategic Alignment

8.1 Strategic Fit

The proposed program aligns with the following goals of the Academic, Strategic, and Business plans.

Academic Plan
Goal 1: Ensure Exceptional Quality in our Academic Programs
Goal 2: Enhance Exemplary Teaching and Learning Practices

Strategic & Business plans
Pillar: Our Students

Goal: To educate and inspire students to realize success in their careers and communities.

This program aligns to Goal 1 of the Academic Plan: Ensure exceptional quality in our academic programs, and the Strategic Plan and Business Plan to educate and inspire students to realize success in their careers and communities. This program has been designed to meet the quality standards for degree curricula and will support our graduates to be better prepared to contribute to the market demand for cybersecurity professionals.

This program has strong alignment with Goal 2 of the Academic Plan: Enhance exemplary teaching and learning practices of the existing faculty members in the Faculty of Science, Engineering and Information Technology (SEIT). The disciplinary emphasis on computer science is aligned with faculty members' expertise and the exemplary teaching practices in SEIT.

8.2 Fit with Existing Programs

There are currently several Ontario College Diploma and Advanced Diploma programs offered by DC that have the potential to serve as pathways into the proposed degree program.

New Program Summary

General Program Information

Proposed Program Title: Bachelor of Cybersecurity

Proposed Credential: Bachelor Degree (3-year)

Academic Dean(s): Tony Doyle, Executive Dean

Faculty: Science, Engineering & Information Technology

Date of Review by PPRC: May 10, 2023

MTCU Code: #80509

Weight and Funding Unit (as per APS table): Weight = 1.2, Funding = 3.3

Proposed Tuition: Year 1: $6,400 (domestic); $18,207.82 (international)

Classification of Instructional Program (CIP) Code(s): Computer and Information Systems Security/Auditing/Information Assurance (11.1003)

NOC Code(s):

- 2171 (2016) – Information Systems Analysts and Consultants equivalent to 21220 (2021) – Cybersecurity specialists, and 21222 (2021) – Information systems specialists (e.g., cybersecurity analyst, systems security analyst, IT security consultant, systems auditor);
- 2281 (2016) – Computer Network Technicians equivalent to 22220 (2021) – Computer Network and Web Technicians (e.g., computer network technician, system administrator, network administrator, server administrator);
- 2283 (2016) – Information Systems Testing Technicians equivalent to 22222 (2021) – Information Systems Testing Technicians (e.g., application testing technician, software tester, systems tester).

Proposed Implementation: Fall 2025

Year 1 Enrolment: 25

Number of Sections, Y1: 1

International Students Seat Allocation: 5

Number of Semesters: Six academic semesters + One WIL semester

Total Hours: 1260 instructional hrs + 420 hrs = 1680 hrs

New or Replacement Program: New

Number of New FT/PT Faculty: 1 FT (years 2 and 3)

Program Delivery Methods: Classroom, online, field placement

Laptop Requirement: No

New or Renovated Space Requirements: Yes

Total Capital Costs: Year 1: $249,750; Year 6: $50,000

1. Approval Stages

The following approval stages have been assessed for this program:

☒ Escan: Labour Market Analysis and for degrees: Student Demand
☒ Budget reviewed and approved by the Chief Financial Officer
☒ Presented to the Program Proposal Review Committee (DATE: May 10, 2023)
☒ New Program Proposal Summary reviewed by the Associate Dean, Centre for Teaching and Learning (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed by the Executive Dean, Centre for Teaching and Learning (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed and approved by Executive Vice-President, Academic (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed and approved by President (DATE: May 30, 2023)

2. Program Overview

2.1 Program Description

The Durham College (DC) Bachelor of Cybersecurity program will meet the demand for cybersecurity professionals. The program is grounded in the disciplinary fields of computer and software security, programming and networking. The program prepares graduates with problem-solving and practical skills for the assessment of cybersecurity risks, and the mitigation of security threats to protect and defend information, systems, and critical infrastructures.

Graduates of the program will be able to secure networks, applications, databases, operating systems, software and distributed systems from cyber threats (hacks, viruses, denial-of-service and malware). Hands-on skills in scripting, encryption, ethical hacking, cryptography, risk management, mitigating cyber-attacks and blockchain are emphasized in the program. Graduates will be prepared to manage security risk, apply best practices, policies, standards and guidelines, and integrate advanced security solutions to meet the needs of future employers.

The application of knowledge and skills in real-world case studies/scenarios and participation in the mandatory 420-hour work-integrated learning opportunity, bridges the transition from education to industry experience, preparing graduates for employment opportunities in a variety of public and private IT organizations. Career prospects include security engineer, cybersecurity specialist, security/forensic analyst, penetration tester, and auditor.

2.2 Vocational Program Learning Outcomes

Vocational program learning outcomes must be consistent with the requirements of the Credentials Framework for the proposed credential. The graduate of the program has reliably demonstrated the ability to:

1. Reduce risk and vulnerability on various operating systems, networks and cloud-based applications by implementing security controls and principles.
2. Perform digital forensics analysis on electronic data to support the chain of evidence and investigations.
3. Secure information systems against security threats by evaluating and applying tools and techniques to formulate countermeasures.
4. Perform vulnerability assessment, penetration testing and auditing on infrastructures and applications.
5. Monitor and analyze network activity to determine security breaches and incidents.
6. Analyze the effective implementation of security policies, standards and regulations to support the organizational goals and objectives.
7. Implement security strategies and processes that address the organization's information security requirements by applying project and risk management principles.
8. Create secure software applications using scripting and programming techniques and software engineering methodologies.
9. Ensure security of application throughout the software lifecycle using agile methodology.
10. Apply leadership strategies to examine professional development opportunities to enhance competence and professional effectiveness as a cybersecurity professional.

2.3 Admission Requirements

Ontario Secondary School Diploma (OSSD) or Mature Student Status
AND
Grade 12 mathematics (C, M or U)

2.4 Differentiation (Within DC)

DC is well-positioned to offer a Bachelor of Cybersecurity degree program for two primary reasons. First, DC currently offers a number of well-established programs in IT through the Faculty of Science, Engineering and Information Technology (SEIT). The proposed degree program complements the existing IT programs offered at the college and will benefit from an established team of faculty subject matter experts with PhDs and relevant industry experience. Included in the cluster of IT programs at DC are several related graduate certificates including Artificial Intelligence Analysis, Design, and Implementation; Data Analytics for Business Decision Making; the Internet of Things (IoT); and Cybersecurity. Students may choose to pursue additional credentials after completing the proposed degree to obtain further specialized knowledge and skills. Second, DC is home to leading applied research centres in cybersecurity

and Artificial Intelligence (AI), providing students of the proposed degree program with on-site opportunities for professional development and experiential learning.

Graduates of the proposed degree program will have the technical knowledge, as well as practical problem-solving skills to protect and secure networks, applications, databases, operating systems, software and distributed systems. Further, graduates will possess hands-on experience with scripting, encryption, ethical hacking and cryptography, allowing them to effectively manage risk and defend information systems and critical infrastructures from attacks.

3. Program of Study

3.1 Work Integrated and Experiential Learning

Work Integrated Learning Opportunities

- ☐ Co-op (Mandatory)
- ☐ Co-op (Optional)
- ☐ Clinical placement
- ☐ Field/Work Placement
- ☐ Skills Lab that simulates workplace environment (e.g., clinical skills lab used by nursing students to practice on life-like patient models, “fieldwork”)
- ☒ Degree work placement – Mandatory

Experiential Learning Opportunities Aligned with SMA3 Definition

- ☒ Capstone (solving a real problem through applied research)
- ☐ Industry or Community Agency-Sponsored Research Project
- ☐ Service Learning (bridges community service and required for a course)
- ☐ Faculty-led Study Abroad

Experiential Learning Opportunities Not Aligned with SMA3 Definition - Co-curricular Activities

- ☐ Bootcamp/Hackathon
- ☐ Mentorship/Career Exploration
- ☐ Research/Teaching Assistantship
- ☐ On-campus Work Experience
- ☐ Work Study
- ☐ Volunteerism

Describe, briefly, the opportunity(ies) in the proposed program; whether it is consistent with the opportunity(ies) offered at other colleges; if different, why.

Work Integrated Learning (WIL) refers to “the process whereby students come to learn from experiences in educational and practice settings and integrate the contributions of those experiences in developing the understandings,

procedures, and dispositions required for effective professional practice, including criticality".[1] The proposed degree program will include a mandatory 14-week work term, totalling 420 hours between year two and three.

[1] Billet, S. (2009b) Realising the educational worth of integrating work experience in higher education. Studies of Higher Education, 34 (7), 827-843.

New Program Summary

Program Map

YEAR 1		YEAR 2			YEAR 3	
Semester 1	**Semester 2**	**Semester 3**	**Semester 4**	**Spring/ Summer**	**Semester 5**	**Semester 6**
Introduction to Cybersecurity	Cryptography Fundamentals	Network Security	Network Intrusion Analysis	Field Placement (420 hours)	Blockchain and Smart Contract Security	Security Leadership Essentials and Strategic Planning
Introduction to Networking	Fundamental Operating System Security	Cloud Security and IoT Infrastructure	Software Development Security		Malware Analysis and Incident Response	Special Topic in Cybersecurity
Math for Computing	Fundamental Database Security	Penetration Testing and Ethical Hacking 1	Penetration Testing and Ethical Hacking 2		Digital Forensics and Auditing	Machine Learning for Cybersecurity
Introduction to Programming	Scripting for Web Security	Identity Management and Access Control	Cyber Law, Privacy, and Ethics		Risk Management and Security Governance	Capstone Project
			Threat Intelligence			
Critical Thinking	Breadth	Breadth	WIL Preparation		Breadth	Breadth

Computer Fundamentals (OS/Database/Web/Math)	Computer & Data Security, Network Protocols, Best Practices	Hacking, Threat Hunting, Assessment & Response, Tools, Ethics	Cybersecurity Career Preparation

Semester 1

Course Title: Introduction to Cybersecurity
Course description: Students explore the interdisciplinarity nature of cybersecurity and its relation to the needs of the nation, business objectives, and society. Students examine the domains of Information and Network Security and the principles of Confidentiality, Integrity, and Availability (CIA). They explore cybersecurity terminologies, technologies, protocols, threat analysis, security principles, security mechanisms, policies, forensics, incidence response, and methods/practices to secure systems.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Introduction to Networking
Course description: Students explore OSI reference model and various protocols that support the communication of data through the network. Students design basic network architecture, configure network devices (switches and routers), and IPv4/ IPv6 addressing. A focus is on basic and advanced functionality of switching, such as Spanning Tree Protocol, VLAN Trunking Protocol, switchport security, EtherChannel and routing concepts such as Hot Standby Router Protocol, multi-area OSPF. Students design and troubleshoot fully functional LAN network infrastructures that benefit small and medium businesses.
Instructional Setting: Lab
Total Hours (Semester): 42

Course Title: Math for Computing
Course description: Students explore binary codes, algebra, probability and statistics that improves the practical ability to understand and handle risks. They examine the relationship between Boolean algebra and increasing the logical reasoning and probability to measure and deal with random occurrences. Students will use statistical software to analyze and summarize data to produce a viable solution.
Instructional Setting: Classroom
Total Hours (Semester): 56

Course Title: Introduction to Programming
Course description: Students explore how to automate large or tedious tasks by using scripting language. An emphasis will be placed on the programming fundamentals that make up scripting languages, best practices for designing, implementing, and deploying secure programs. Using an industry scripting language and best practices, students have hands-on opportunities to perform AI modelling in the cybersecurity threat landscape.
Instructional Setting: Lab
Total Hours (Semester): 56

Course Title: Communications 1: Critical Thinking and Writing
Course description: This course introduces students to essential writing skills for business. Types of scholarly and non-scholarly writing will be reviewed. Grammar, style, and standards for different audiences will be explained and reinforced through practice. Methods to construct and critically evaluate arguments will be explained. Research, organization, revision, layout, and copy-editing skills will be developed through group and individual assignments.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 2

Course Title: Cryptography Fundamentals
Course description: This course is an introduction to the field of cryptography, which involves the study of techniques used to secure communication and protect sensitive information. The course will explore the various cryptographic algorithms and protocols, such as RSA, AES, DES, and SHA, and their applications in securing communication and protecting data. The course will also cover the various attacks that can be launched against cryptographic systems, such as brute-force attacks, side-channel attacks, and chosen-plaintext attacks, and how to prevent these attacks using appropriate cryptographic techniques. Students are also introduced to modern cryptography with an emphasis on public key encryption, digital signatures, certificate and key management, and basic protocols.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Fundamental Operating System Security
Course description: Students are introduced to the fundamental principles and characteristics common to operating systems - the main driving force of every system, managing file systems, threads and processes. Emphasis is on the practices and knowledge to utilize the full potential of the Linux/Windows system - shell scripts, managing permissions, process management and network applications and services with a focus on the system-related security issues. Students gain hands-on experience with exercises and experimentation to practice troubleshooting and operational procedures.
Instructional Setting: Lab
Total Hours (Semester): 56

Course Title: Fundamental Database Security
Course description: Students explore the importance of securing and protecting vulnerable data from security threats. Students examine database types, Structured Query Language (SQL), normalization, user administration, password management, security models, profiles, password policies, privileges and roles. Students work in teams to design Entity-Relationship Diagram (ERD) for an enterprise and implement Relational Database Management (RDBM) for their ongoing business to track and manage data security.
Instructional Setting: Lab
Total Hours (Semester): 42

Course Title: Scripting for Web Security
Course description: Students analyze scripting languages used for implementing websites. The students will learn the syntax and structural elements of scripting languages needed to develop secure web sites and understand both server and client-side security vulnerabilities, exploits and attacks. They explore how to detect, defend and protect web security issues and vulnerabilities. Students learn how to exfiltrate sensitive data from target web applications.
Instructional Setting: Lab
Total Hours (Semester): 56

Semester 3

Course Title: Network Security
Course description: Students' knowledge of network security is extended beyond LAN to WAN technologies to address the growing need to secure networks at all layers using hybrid firewall technologies. Students examine methodologies to monitor and secure networks using IPv4 and IPv6 access control, Small Network Management Protocol (SNMP), System Logging (SYSLOG) server, Network Time Protocol (NTP), Switch Port Analyzer (SPAN), Intrusion Detection System (IDS)/ Intrusion Prevention System (IPS) technologies and Cisco ASA firewall. Emphasis is on Authentication Authorization and Accounting (AAA), role-based authentication, and secure Virtual Private Network (VPN) implementation.
Instructional Setting: Lab
Total Hours (Semester): 42

Course Title: Cloud and IoT Infrastructure
Course description: Students are introduced to cloud computing and the internet of things (IoT) architectures and infrastructure. Students examine the use of cloud computing, the business cases for cloud computing and the emerging IoT use cases. Emphasis is on various cloud service models (IaaS, PaaS, SaaS), deployment models (Public, Private, Hybrid) and key components of a cloud infrastructure (VMs, Networking, Storage - File, Block, Object, CDN). Students explore emergent IoT & cloud trends and practices including – Security/privacy solutions for IoT, Microservices, Serverless, DevOps, Cloud Native and Application Modernization.
Instructional Setting: Lab
Total Hours (Semester): 56

Course Title: Penetration Testing and Ethical Hacking 1
Course description: Students are introduced to the foundational practices, strategies, and ethics of penetration testing, and the critical phases of an attack. Students will understand common application flaws, as well as how to identify and exploit them. Students utilize industry standard tools, and protocols to perform penetration testing and vulnerability assessment. The course combines penetration testing methodologies along with the hands-on application of security tools to better secure organizations through proper documenting and reporting.
Instructional Setting: Classroom

Total Hours (Semester): 56

Course Title: Identity Management and Access Control
Course description: Students learn the importance of authenticating the right person and authorizing appropriate technological resources for mitigating insider threats. Students explore user provisioning using Active Directory for both Windows and Linux servers. The student works in teams to create a business with users, groups, and access control mechanisms to mimic a real-time organization structure. They strategize to implement elimination of weak passwords, mitigation of insider threats, advanced tracking of anomalies, and multi-factor security in their project model.
Instructional Setting: Lab
Total Hours (Semester): 42

Semester 4

Course Title: Network Intrusion Analysis
Course description: Students learn about network intrusion analysis in order to reduce network downtime and ensure that critical business systems are maintained in full operation. Students utilize commonly used application protocols such as TCP/IP, DNS, and HTTP to identify and examine emerging network threats. Students examine intrusion analysis and network traffic analysis by analyzing real-world cyber-attacks in traditional, hybrid, and cloud network environments. Students advance their learning in intrusion investigation and incident response, including a wealth of practical, hands-on tools for incident assessment and mitigation. Students will apply a variety of tools, including tcpdump, Wireshark, Snort, Suricata, Zeek, SiLK, and NetFlow/IPFIX.
Instructional Setting: Lab
Total Hours (Semester): 42

Course Title: Software Development Security
Course description: Students engage in an in-depth understanding of the security challenges associated with software development and the techniques and practices used to mitigate those challenges. Students learn about secure software development methodologies, including the Software Development Life Cycle (SDLC), Agile software development, and DevSecOps. The course will cover topics such as threat modeling, secure coding practices, security testing techniques, API security, and cloud API security. Students will also gain practical experience by working on hands-on labs and case studies, which will enable them to use various tools and techniques to implement security controls and manage risks throughout the software development process, including the development and usage of APIs and Cloud APIs. By the end of the course, students will be able to apply these skills to develop secure software applications, identify and mitigate potential security vulnerabilities, and ensure compliance with industry standards.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Penetration Testing and Ethical Hacking 2

Course description: Students assess and correct vulnerabilities present within information systems by using ethical hacking tools and techniques. Students will perform penetration testing on network devices such as routers, switches, and NAC. Students will exploit applications running on Linux and Windows systems. Students will effectively evaluate the security of mobile devices and identify flaws in mobile applications. Students will conduct a mobile device penetration test on Android and iOS to better protect organizations against mobile device attacks.
Instructional Setting: Lab
Total Hours (Semester): 56

Course Title: Cyber Law, Privacy and Ethics
Course description: The rise in the use of cyberspace and emerging technologies requires an understanding of cyber law that governs privacy and its ethical use. Students examine and research the legal, financial and reputational repercussions for failing to address cyber risks. Students explore Canadian legislation, and regulations in the area of cybersecurity, such as, Personal Information and Protection Electronic Documents Act (PIPEDA), Criminal Codes for Cybercrime, Canada's Anti-Spam Law (CASL), and Canadian Securities Administrators (CSA).
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Threat Intelligence
Course description: This course is designed to provide students with an in-depth understanding of threat intelligence, including the collection, analysis, and dissemination of information about potential or current threats to an organization's security posture. Throughout the course, students learn about the different frameworks used in Threat Intelligence such as the Cyber Kill Chain, Diamond Model, and MITRE ATT&CK. They also gain practical experience by working on hands-on labs and case studies, which will enable them to use various tools and techniques to collect and analyze data from different sources. By the end of the course, students will be able to apply these skills to produce reports, integrate Threat Intelligence into security operations, incident response, and risk management. The course also focuses on hands-on labs and case studies that provide students with real-world experience in using threat intelligence tools and techniques to detect and respond to cyber threats.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: WIL Preparation
Course description: This course is designed to prepare students for their field placement experience. Students will learn about the roles and responsibilities of those in the field of cybersecurity, the various agencies and organizations in which they are employed, and the placement opportunities available that will facilitate progression towards their professional goals and aspirations. Students will be introduced to placement search techniques, field placement learning objectives, roles of agency supervisors and college advisors. To succeed in this course, students will complete the necessary forms and paperwork required for field placement as well as participate in the selection process for field placement.

Instructional Setting: Classroom
Total Hours (Semester): 14

Spring/Summer: Work Integrated Learning

Course Title: Work Integrated Learning
Course description: The field placement work integrated learning experience is viewed as an integral part of the degree program. The practical aspects of field work, in conjunction with the academic studies, enables the student to better understand methods and techniques for organizing activities and working collaboratively with people. Field experiences contribute to meeting the program learning outcomes in different manner than in an academic setting.
Instructional Setting: Field
Total Hours (Semester): 420

Semester 5

Course Title: Blockchain and Smart Contract Security
Course description: Students explore various aspects of blockchain technology, including distributed ledger technology, consensus algorithms, and smart contract development. Students learn about the architecture of blockchain systems and the various consensus algorithms used to ensure secure and trustworthy transactions. They also explore the different types of blockchains, including public, consortium, and private blockchains. Students learn about the purpose and functionality of smart contracts, as well as the different programming languages used to develop them. The course covers common security vulnerabilities in smart contract development and how to mitigate these risks. Topics such as smart contract testing, formal verification, and security audits will also be discussed. Throughout the course, students will work on various hands-on projects and assignments to apply the concepts they have learned.
Instructional Setting: Lab
Total Hours (Semester): 42

Course Title: Malware Analysis and Incident Response
Course description: Students examine various types of malware and different assessment tools to explore how it can damage and infect operating systems or networks. Students compare the differences between static, dynamic and hybrid malware analysis to discuss how malware evolves and operates. Emphasis is on advanced malware protection, a defense mechanism to block or remove malware from tampering the content and system settings.
Instructional Setting: Lab
Total Hours (Semester): 56

Course Title: Digital Forensics and Auditing
Course description: Students are introduced to the legal and technical aspects of digital forensics, including general forensic processes, imaging, hashing, file recovery, file system basics, identifying mismatched file types, reporting, and laws regarding computer evidence. Students learn about the importance of

network forensic principles, legal considerations, digital evidence controls, and documentation of forensic procedures. Students explore the current state of cybercrime, the origins of cybercrime and its role in cyber-terrorism, cyber warfare, hacktivism, and traditional criminal activities.
Instructional Setting: Lab
Total Hours (Semester): 56

Course Title: Risk Management and Security Governance
Course description: The course focuses on the management and control of information security risks and the role of security governance in ensuring compliance with legal and regulatory requirements. The course covers the various legal and regulatory frameworks that apply to information security, including data protection laws and industry-specific regulations. Students learn how to explore security control requirements defined by the Center for NIST Cybersecurity Framework, ISO/IEC 27000, the Cybersecurity Maturity Model, and other frameworks into a cohesive strategy to protect their organization and enterprise while complying with standards. Students also learn about the importance of compliance and the steps organizations can take to ensure compliance with relevant regulations. Maintaining the business process despite major disruption or disaster such as flood or cyber-attack needs proper planning, risk analysis and management. Students learn how to perform qualitative and quantitative risk assessment. Students work in teams to strategize, develop and implement Business Continuity Management (BCM).
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 6

Course Title: Security Leadership Essentials and Strategic Planning
Course description: The course focuses on the essential skills, knowledge, and strategies required for effective information security leadership and strategic planning. This course introduces students to the basics of information security leadership, including the role of security leaders in organizations, the key competencies required for effective leadership, and the challenges and opportunities in the field. Students learn about the importance of vision, mission, and values in shaping the direction of an organization and how these concepts apply to information security. Students learn about the importance of aligning security initiatives with the overall goals and objectives of the organization and how to measure the success of security initiatives.

Throughout the course, students participate in various hands-on activities and case studies to apply the concepts they have learned. These activities provide students with the opportunity to develop practical skills in information security leadership and strategic planning. The course prepares students for careers in information security leadership, management, or related fields, where a deep understanding of these concepts and skills is in high demand.

Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Special Topics in Cybersecurity
Course description: This course covers a wide range of subjects, including emerging technologies, current trends, and best practices in cybersecurity, as well as specialized topics relevant to the needs and interests of students. Students learn about the importance of staying up-to-date with the latest trends and developments in cybersecurity and the role of professional organizations and certification programs in advancing the field. Throughout the course, students have the opportunity to explore a variety of topics in depth, including topics such as cloud security, mobile security, cryptography, penetration testing, quantum computing, digital forensics, and more. Students have a deeper understanding of the key issues and challenges in cybersecurity, as well as the skills and knowledge required to stay up-to-date with the latest advancements in the field.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Machine Learning for Cybersecurity
Course description: The course focuses on the application of data science and machine learning techniques to real-world cybersecurity problems and challenges. The course begins by introducing students to the basics of data science and machine learning, including data exploration, feature engineering, and model selection. Students learn about the various algorithms and models used for machine learning and apply these techniques to solve practical problems in the cybersecurity domain. The course explores the various challenges and opportunities in applying data science and machine learning to cybersecurity problems, including data security and privacy, cyber threat intelligence, and incident response. Throughout the course, students work on various hands-on projects and case studies to apply the concepts they have learned. These projects focus on real-world problems and challenges in the cybersecurity domain and provide students with the opportunity to develop practical skills in data science and machine learning for cybersecurity.
Total Hours (Semester): 56

Course Title: Capstone Project
Course description: Students apply the theoretical and practical knowledge and skills gained throughout the program to a challenging project in the area of Cybersecurity. Students define a project of interest and student teams work on the development and implementation of the project and outcome. In addition to relying on students' software design and development abilities, students are required to demonstrate academic ability, communication, critical thinking, problem solving, project management, research, ethical, professional, and other relevant skills and qualities.
Instructional Setting: Classroom
Total Hours (Semester): 56

4. Strategic Alignment

4.1 Strategic Fit

The proposed program aligns with the following goals of the Academic, Strategic, and Business plans.

Academic Plan
Goal 1: Ensure Exceptional Quality in our Academic Programs
Goal 2: Enhance Exemplary Teaching and Learning Practices
Strategic & Business plans
Pillar: Our Students
Goal: To educate and inspire students to realize success in their careers and communities.

4.2 Fit with Existing Ontario College and University Programs

The field of cybersecurity has strong employability outcomes for the foreseeable future. There is significant demand for graduates with the technical knowledge and problem-solving skills necessary to proactively implement security practices, identify system vulnerabilities and quickly respond to security breaches. The proposed three-year Bachelor of Cybersecurity degree program at DC would assist in meeting this labour market demand and expedite entry of baccalaureate graduates into the workforce.

Degree Credentials

Bachelor's degrees preparing graduates for careers fields related to cybersecurity are offered at Ontario colleges and universities. Ontario Tech University (ONTech) offers an Honours Bachelor of Information Technology in Networking and Information Technology Security. Carleton University offers an Honours Bachelor of Computer Science degree program with the option to major in Computer and Internet Security. The University of Toronto (UT) offers an Honours Bachelor of Science in Information Security and York University offers both a Bachelor of Science and a Bachelor of Arts in Computer Security. Several Ontario universities also offer education in cybersecurity at the Master's level and Queen's University offers a PhD program in cybersecurity.

In the college sector, Sheridan College offers an Honours Bachelor of Information Science program with a cybersecurity major, and Seneca College offers an Honours Bachelor of Technology – Informatics and Security degree. Two additional institutions offer Bachelor of Engineering programs with a focus on cyber, electronic or information systems engineering.

Non-Degree Credentials

Ontario colleges currently offer advanced diploma programs in cybersecurity, and several colleges, including DC, offer graduate certificate programs. Certificates and/or diplomas in cybersecurity are also offered at several Ontario universities. Thirteen Ontario colleges, including DC, offer an advanced diploma in Computer Systems Technology, which provides graduates with the skills to provide network

support, maintenance and administration. While the majority of these programs are not specific to cybersecurity, some focus on securing networks and connected devices in the final year of the program. Compared to non-degree credentials, the proposed degree program will better prepare students to meet labour market demand by providing comprehensive and in-depth knowledge of specialized topics related to cybersecurity.

5. Labour Demand and Graduate Employment Possibilities

Based on the environmental scan, it is expected that the proposed three-year Bachelor of Cybersecurity will be a strong addition to DC's program offerings. Graduates of the proposed degree program will possess the technical knowledge and practical problem-solving skills to analyze, mitigate and respond to cybersecurity risks and protect information, systems and critical infrastructures. After a review of the need for the proposed program, DC determined it would be a strong addition to its postsecondary offerings because:

- There is a shortage of skilled cybersecurity professionals to meet rapidly growing labour market demand.
- Cybersecurity is relevant and increasing in need across all industries in the public and private sectors.
- DC has established research centres, the Centre for Cybersecurity and AI Hub, to offer students numerous opportunities for professional development and hands on experience.
- DC has an existing roster of well-established IT programs that are in demand.
- There is a scarcity of degree offerings in cybersecurity within the CAAT system.

5.1 Labour Market Analysis

Recent advances in technology, such as artificial intelligence (AI), cloud computing and internet connected devices have had a profound impact on daily life, changing how we communicate, work and live[2]. In today's digital age, virtually all businesses use digital technology to deliver their products or services. The increased integration of technology into our daily lives has benefits, such as creating efficiency in critical infrastructure, reducing costs of goods and services, and opening up new opportunities for advancement;[3] however, as the number of connected devices and amount of digitally stored data increases, so does the risk that this information will be compromised.

Cyberattacks are attempts from unauthorized and often malicious actors to gain access to and control of critical data and systems.[4] Cyberattacks take on many forms including Malware, SQL-injection and Phishing. Malware, one of the most common forms of cyberattacks[5], is any malicious software that disrupts or

[2] Canadian Centre for Cybersecurity, Career Guide (2022)
[3] Raza (2020)
[4] Kaspersky, What is Cyber Security? https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security
[5] Rupp (2022)

damages users' computers or networks. Malware comes in several forms such as viruses (self-replicating programs that spread through a system and inject files with malicious code), trojans (malicious code disguised as legitimate software that damages systems or collects information) and ransomware (malicious code that collects personal information or locks/encrypts files or systems until a ransom is paid)[6]. SQL-injection exploits vulnerabilities in data driven applications and injects malicious code into databases to steal information. Phishing involves tricking individuals into providing sensitive information using messages which appear to be from legitimate companies.

Cyberattacks are carried out either by individuals or organized groups and are initiated for a wide range of financial, social and political reasons. For example, in the on-going conflict between Russia and Ukraine, Russia has launched a series of cyberattacks on organizations providing water, power and transportation to Ukrainian civilians to cause fear and panic and undermine their will to fight[7]. In another example, several organizations in Canada including The Hospital for Sick Children (SickKids), Indigo, Sobey's, Maple Leaf Foods and the Liquor Control Board of Ontario (LCBO) have recently been the victim of ransomware attacks that were financially motivated[8].

Cyberattacks have disastrous consequences for individuals, governments and private businesses[9]. For individuals, cyberattacks can result in everything from loss of personal data to financial extortion and identity theft. For government agencies and private companies, cyberattacks can result in massive financial loss, loss of data and disruption of, or damage to critical infrastructure. For example, in 2017, malware titled 'NotPetya', was distributed onto the systems of many Fortune 500 companies and government agencies[10]. It is estimated that the 'NotPetya' attacks destroyed critical data and disrupted the operations of organizations in 65 different countries, causing billions of dollars in damage. More recently, in May 2021 the Colonial Pipeline in the United States was the target of a ransomware attack. In addition to five million dollars in ransom payments, the attack resulted in panic buying of gasoline across the southeastern United States, consequentially increasing gasoline prices and creating shortages.[11] Additionally, the departments of Energy and Homeland Security determined that continued closure of the pipeline for just three to five days longer would have created further shutdowns in the transportation and manufacturing industries due to a lack of diesel fuel necessary to carry out regular operations.

In 2021, roughly one-in-five Canadian businesses experienced a cyberattack and 40 per cent of these incidents required the business to shut down operations[12]. The average length of these shutdowns was 1.5 days, and Canadian businesses

[6] Kaspersky, What is Cyber Security? https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security
[7] Miller (2023)
[8] Bundale (2023)
[9] Cisco Systems, What is Cybersecurity, https://www.cisco.com/c/en_ca/products/security/what-is-cybersecurity.html
[10] Vijayan (2020)
[11] Centre of Strategic & International Studies. Significant Cyber Incidents. 2021. https://www.csis.org/programs/strategic-technologies-program/significant-cyber-incidents
[12] The Daily, Impact of cybercrime of Canadian Businesses, 2021, https://www150.statcan.gc.ca/n1/daily-quotidien/221018/dq221018b-eng.htm

spent over $600 million to recover from cyber incidents in 2021, which is an increase of $200 million from 2019.

Cybersecurity is the practice of defending computers, servers, networks, data and connected devices from digital attacks[13]. The implementation of strong cybersecurity principles allows organizations to protect, prevent damage to and, in the event of a security breach, restore electronic communications systems and the information they contain. Cybersecurity is relevant across all industries in both the public and private sector. While some industries many be more attractive targets for cyberattacks as they store particularly sensitive information such as financial data or health information, all businesses have proprietary information and personal data about their employees, clients, suppliers and business partners that must be protected[14].

According to the National Institute of Standards and Technology's (NIST) Cybersecurity Framework, there are five components of cybersecurity within organizations: identify, protect, detect, respond and recover[15]. Organizations must identify the critical processes and assets that need to be protected and develop an organization-wide understanding of how to manage risk. Individual users must be made aware of their role in maintaining network security and comply with basic data security principles such as choosing strong passwords, regularly updating software and not clicking on suspicious links or attachments[16]. Weaknesses in end-user security may be exploited during a cyberattack not only to gain access to the user's device, but also the network to which it is connected.

Once the key processes and assets are identified, it is necessary to develop and implement policies and practices that will protect them and ensure that the organization can continue to function uninterrupted[17]. Preventative security controls are policies, practices or technology designed to protect critical assets and processes by preventing unauthorized network access and activity[18]. These preventative controls include physical controls such as biometric scanners or locks, technical controls such as firewalls, antivirus software, multifactor authentication (MFA) and encryption, and administrative controls such as regular system auditing, role-based assignment of network access and employee training and education. A successful cybersecurity strategy is complex with multiple layers of protection across the devices, networks and systems that the organization wants to protect[19].

Despite organizations' best efforts to prevent unauthorized network access, security breaches are inevitable, particularly as the methods employed by hackers and cybercriminals become more sophisticated[20]. The steps taken to detect and alert organizations to unauthorized network access or activity are

[13] Kaspersky, What is Cyber Security? https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security
[14] Canadian Centre for Cybersecurity, Career Guide (2022)
[15] NIST Cybersecurity Framework, https://www.nist.gov/cyberframework/getting-started
[16] Kaspersky, What is Cyber Security? https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security
[17] NIST Cybersecurity Framework, https://www.nist.gov/cyberframework/getting-started
[18] Walkowski (2019)
[19] Cisco Systems, What is Cybersecurity, https://www.cisco.com/c/en_ca/products/security/what-is-cybersecurity.html
[20] Davies (2022)

referred to as detective security controls[21]. Detective controls include physical controls such as alarms and surveillance camera logs, technical controls such as intrusion detection or intrusion prevention systems (IDS/IPSs) which monitor networks for malicious activity and policy violations, and administrative controls such as reviewing access rights and unauthorized changes. Maintaining and monitoring logs of network activity, and understanding the typical flow of information is a critical step in being able to identify atypical network activity[22]. For example, Security Information and Event Management (SIEM) systems can be used to aggregate logs from multiple sources with real-time information on security threats, to quickly identify and prioritize threats and rule out false positives[23].

Once a breach is identified, organizations must be able to respond rapidly to contain the attack and remove unauthorized actors from the network[24]. In addition, organizations must work to repair the damage caused by a cyberattack, recover lost data and resume normal operations. The steps taken to repair damage, recover lost data and restore network capabilities during and after a cyberattack are referred to as corrective controls[25]. Corrective controls include physical controls such repairing damage and increasing security, technical controls such as patching the system, decrypting data, terminating programs, and quarantining viruses, and implementing administrative controls, such as the organization's incident response plan. An incident response plan outlines the procedures that should be followed in responding to and recovering from a cyber incident, and details the responsibilities of key stakeholders in gathering and sharing information about the incident. A well-tested, frequently updated and clearly communicated incident response plan is essential for ensuring rapid response and recovery.

Experts in cybersecurity can support organizations in all industries detect vulnerabilities, implement security software and hardware, mitigate risk, develop policies and practices for maintaining system security and respond to and recover from security threats. There are a wide range of career opportunities related to cybersecurity[26]. For example, penetration testers identify vulnerabilities in networks, information systems and web applications to reduce the risk of a cyberattack, and cybersecurity analysts protect an organization's data from digital attacks by installing security software, educating employees on security protocols, researching attack trends, creating incident response plans, reviewing suspicious activity and reporting breaches. Security architects identify the strengths and weaknesses of their organization's systems and design, plan and supervise the implementation of cybersecurity infrastructure that protects these systems.

Competencies of Cybersecurity Professionals

[21] Walkowski (2019)
[22] NIST Cybersecurity Framework, https://www.nist.gov/cyberframework/getting-started
[23] Greene (2015)
[24] NIST Cybersecurity Framework, https://www.nist.gov/cyberframework/getting-started
[25] Walkowski (2019)
[26] Simmons (2022)

At its core, cybersecurity is the application of specialized problem-solving skills to secure organizations' networks and effectively monitor and respond to threats. To develop these specialized problem-solving skills individuals must have in-depth technical knowledge in three key areas. First, cybersecurity professionals must have a solid understanding of computer fundamentals such as knowledge of computers and networks, different operating systems, databases and different scripting languages. Second, cybersecurity professionals require knowledge of security protocols and best practices across a range of different contexts and the ability to communicate and enforce security related policies. Finally, cybersecurity professionals require specialized and in-depth knowledge of various tools and methods for risk assessment, management and response. The figure below provides an overview of the core competencies required for careers in cybersecurity.

Computer Programming and Network Fundamentals

A solid understanding of network, computer and operating system (OS) architecture, coding and programming, and database design and management provide the basis for developing more specialized cybersecurity knowledge and skills[27]. Knowledge of computer and network architecture provides cybersecurity professionals with an understanding of the technical aspects of data storage and transmission. By understanding the flow of information across a network, cybersecurity professionals can develop and implement security protocols that protect information during storage and transit and prevent unauthorized access[28].

Additionally, cybersecurity professionals must have a strong understanding of all OS environments, including Windows, Linux and MAC OS[29]. Without a foundational understanding of these operating systems, cybersecurity professionals will be significantly limited in their ability to implement security controls and troubleshoot issues that arise in these OS environments. For example, a solid understanding of Linux system programming is necessary to learn Kali Linux - a more specialized Linux-based operating system commonly used for ethical hacking and penetration testing.

Familiarity with different scripting languages is also necessary, as it provides the skills necessary to develop secure applications and to detect and respond to system vulnerabilities[30]. For example, in SQL-injection attacks, malicious actors use the SQL programming language to damage data stored in databases; thus, a solid understanding of SQL provides cybersecurity professionals with the skills needed to defend against these attacks. Additionally, knowledge of Python can be leverage by cybersecurity professionals to quickly identify and fix a wide range of system vulnerabilities. Malicious actors are increasingly taking advantage of advancements in AI technology to create sophisticated attacks that are difficult to identify and defend against using traditional methods[31]. As a result, cybersecurity professionals with strong skills in programming, AI and machine learning will be

[27] Rupp (2022)
[28] NIST Cybersecurity Framework, https://www.nist.gov/cyberframework/getting-started
[29] Jena (2023)
[30] ibid
[31] Davies (2022)

in high demand as they will have the skills necessary to defend against new waves of cyberattacks.

Security Protocols and Best Practices

Cybersecurity professionals also require a deep understanding of security protocols and best practices across a wide range of contexts, including networks, applications, databases, operating systems, software and distributed systems[32]. They must have an in-depth understanding of common types of cyber threats such as hacks, viruses, denial-of-services attacks and malware, as well as the best methods of securing systems against these attacks. For example, cybersecurity professionals need to have knowledge of the use of cryptography to protect sensitive information and the use of technologies such as VPN's, firewalls and intrusion detection and prevention systems (IDS/IPSs) to prevent and detect unauthorized network activity. In addition to being able to develop and implement security protocols, they must also be able to analyze the effectiveness of these measures and determine whether modifications are required.

New emerging technologies create novel attack avenues for malicious actors. Cybersecurity professionals must keep up to date with these advances and update their security protocols accordingly[33]. For example, as more businesses begin to store their data and run applications through cloud-based technologies, cybersecurity professionals with skills in cloud-based security will be in high-demand. Additionally, the number of connected devices which can record, analyze and share personal data (known as smart devices or Internet of Things, or IoT devices) is rapidly increasing, creating a demand for cybersecurity professionals who can understand and manage the unique security challenges associated with these devices.

Cybersecurity professionals are often educators within organizations and as such, require the ability to create clear and comprehensive policies that outline the steps individuals need to take to ensure the network remains secure[34]. This requires an understanding of industry best practices and standards as well as any legal regulations surrounding data privacy and security that the organization must comply. Cybersecurity professionals must be able to clearly communicate how the actions of individual employees contribute to the organization's security goals and ensure compliance with all security related policies and practices.

In addition to understanding security protocols and best practices from a technical standpoint, they must be well-versed in the legal frameworks which govern data protection, to ensure all implemented cybersecurity policies and practices comply with these regulations[35]. Failure to implement security policies and practices in accordance with these regulations can have major legal and financial consequences. In Canada, the legal and regulatory framework which governs cybersecurity practices is complex and constantly evolving to keep up

[32] Jena (2023)
[33] Jena (2023)
[34] Kaspersky, What is Cyber Security? https://www.kaspersky.com/resource-center/definitions/what-is-cyber-security
[35] Koczerginski, Wasser, & Lyons (2017)

with advances in technology. For example, the Canadian Government is making legislative changes to help bolster cybersecurity as telecommunications companies switch to new 5G networks[36]. In June 2022, a new bill was introduced to add security as a policy objective of the Telecommunications Act, providing the government with the legal authority to mandate security related actions in this sector. Cybersecurity professionals must have a deep understanding of the various legal statues and regulatory bodies relevant to the organizations in which they work and ensure they regularly update their security protocols as new legal and regulatory requirements are introduced.

Threat Assessment and Response

Cybersecurity professionals must also have specialized knowledge about methods and tools for assessing, managing and responding to threats[37]. Cybersecurity strategies must be proactive and adaptive to keep up with ever-changing security risks. As a result, it is necessary for cybersecurity professionals to be able to identify system vulnerabilities and security threats before they occur and to develop proactive strategies to mitigate risk. For example, strong skills in penetration testing and ethical hacking allow cybersecurity professionals to simulate attacks and identify weakness in the security of networks and devices so they can be corrected before an attack occurs.

Cybersecurity professionals must also have a comprehensive understanding of risk analysis and risk management principles in order to identify security risks before they occur, estimate their likelihood to happen, determine their potential impact and prioritize the allocation of resources to address the risks in a timely manner. Additionally, they must have strong skills in incident handling and response allowing them to identify, manage, record and analyze security threats in real-time. Knowing which processes and assets are most critical for an organization's day-to-day operations allows cybersecurity professionals to prioritize the security and repair of these systems during an attack in order to limit disruption and maintain business continuity as much as possible.

Industry Trends

National Trends

As the risk of cyberattack grows, governments and private organizations alike are increasing their investment in cybersecurity. It is estimated that globally, governments will spend $1.75 trillion USD on cybersecurity between 2021 and 2025[38]. However, there is currently not enough skilled cybersecurity professionals to meet this growing labour market demand. In 2014, there were roughly one million unfilled cybersecurity positions worldwide, by 2021 this number rose to 3.5 million. This gap is expected to continue, with the Bureau of

[36] Public Safety Canada, News Release (2022)
[37] Rupp (2022)
[38] Al-Shibeeb (2022)

Labor Statistics predicting a 33 per cent increase in cybersecurity jobs between 2020 and 2030[39].

The demand for cybersecurity professionals is also reflected in the Canadian labour market, and the cybersecurity industry has a profound impact on the Canadian economy. In total, the Canadian cybersecurity industry contributed roughly $3.2 billion in Gross Domestic Product and 29,000 new jobs to the Canadian economy in 2020[40]. This is a 30 per cent increase in revenue and employment compared to 2018, suggesting that not only is the impact of the cybersecurity industry high but it is also increasing over time. Cybersecurity infrastructure solutions were the largest contributor to the revenue generated in 2020, making up 58.7 per cent of the total revenue. The remainder of the revenue generated from the cybersecurity industry was split between bundled cybersecurity solutions, compliance audits and programs, encryption, penetration testing and threat monitoring, industrial control systems, forensics and investigations, and training.

As a result of the large economic impact of the cybersecurity industry, the Canadian federal government is committed to investing significant resources to strengthening cybersecurity efforts. For example, in 2018, the Federal Government developed a new National Cyber Security Strategy, which emphasizes the need to protect systems and critical infrastructure from cyber attack.[41] Additionally, in 2022 the Federal Government invested $80 million in the National Cybersecurity Consortium (NCC) a non-profit organization with the goal of bringing together business and government research in cybersecurity[42]. There has also been significant private investment in the Canadian cybersecurity industry. For example, roughly $347 million in research and development was performed in the Canadian cybersecurity industry in 2020, with 90 per cent of this being funded by private entities within the industry, including parent companies, affiliates and subsidiaries[43].

As a result of the increased frequency and impact of cyber incidents, a majority of Canadian businesses are looking to hire cybersecurity professionals to help them mitigate security risks[44]. In 2021, 61 per cent of businesses indicated they had hired at least one employee specifically responsible for mitigating security risks and 38 per cent hired a consultant or contractor to manage their cybersecurity needs. Further, Canadian businesses spent a total of approimately $10 billion on cybersecurity (including the recovery from and prevention of attacks), an increase of $2.8 billion compared to 2019.

However, there are currently not enough skilled cybersecurity professionals to keep up with the rapidly growing labour market demand. In 2022 there were

[39] Rupp (2022)
[40] ISED Canada Report (2022), https://ised-isde.canada.ca/site/aerospace-defence/en/state-canadas-cybersecurity-industry
[41] National Cyber Security Strategy. https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/ntnl-cbr-scrt-strtg/index-en.aspx
[42] Al-Shibeeb (2022)
[43] ISED Canada Report (2022), https://ised-isde.canada.ca/site/aerospace-defence/en/state-canadas-cybersecurity-industry
[44] The Daily, Impact of cybercrime of Canadian Businesses, 2021, https://www150.statcan.gc.ca/n1/daily-quotidien/221018/dq221018b-eng.htm

approximately 25,000 unfilled cybersecurity jobs in Canada, suggesting an urgent need for more skilled cybersecurity professionals[45].

Industry Trends

Provincial Trends

The province of Ontario is a global leader in cybersecurity, with three established cybersecurity hubs in Toronto, Waterloo and Ottawa[46]. According to a report released by Statistics Canada in 2022, cybersecurity infrastructure solutions, bundled solutions, compliance audits and program development, penetration testing and threat monitoring and encryption are all areas of strength for Ontario's cybersecurity industry. With 25,000 IT firms, Ontario has the second largest cluster of tech companies in North America, only Silicon Valley is larger[47]. Many leading IT and cybersecurity companies including 1 Password, SecureKey Technologies, Arctic Wolf, BlackBerry and Resolver have offices in Ontario specializing in AI, machine learning and the protection of critical infrastructure. Additionally, organizations continue to make large investments into cybersecurity research and development within the province. For example, Nokia recently chose Ontario as the location for a major redevelopment project that will transform one of their existing facilities into a world-class centre for 5G, AI and cybersecurity research and development[48]. The total value of this project is expected to be $770 million CAD and it is expected to create up to 344 new jobs.

In 2022, there were roughly 3,000 unique job postings for cybersecurity positions in Ontario.[49] Top job titles included Cybersecurity Analyst, Cybersecurity Specialist, Information Security Analyst and Cybersecurity Manager. A bachelor's degree was the most frequently mentioned credential and the Certified Information Systems Security Professional (CISSP) certification was the most mentioned additional qualification. Of the unique postings, 299 provided information on salary, the median salary for these positions was $89,000. The job postings were spread across a wide range of industries with the Finance and Insurance, and Professional, Scientific and Technical Services industries having the highest concentrations of cybersecurity job postings. In alignment with this, the Toronto census division had the highest concentration of cybersecurity job postings during 2022, followed by the Peel and York census divisions. In Durham Region, 72 unique cybersecurity job postings were identified.

Regulatory Bodies, Other Associations and Affiliations

- International Information System Security Certification Consortium (ISC)^2
- Computing Technology Industry Association (CompTIA)
- Centre for Internet Security (CIS)
- Information Systems Audit and Control Association (ISACA)
- Information Systems Security Association (ISSA)
- EC-Council

[45] Thomas (2022)
[46] Invest Ontario, Cybersecurity, https://www.investontario.ca/cybersecurity
[47] Seitz & Kornitzky (2021)
[48] Invest Ontario Press Release (2022)
[49] Lightcast Analyst 2022.3, accessed March 2023

- Canadian Centre for Cybersecurity
- Centre for Internet Security (CIS)
- Cisco Systems
- McAfee Institute

Certifications

There are many certifications related to cybersecurity. Some of the most common and widely recognized are:

- EC-Council: Certified Ethical Hacker (CEH)
- $(ISC)^2$: Certified Information Systems Security Professional (CISSP)
- CompTIA: CompTIA Security+ and CompTIA Cybersecurity Analyst+ (CySA+)
- ISACA: Certified Information Systems Auditor (CISA) and Certification in Risk and Information Systems Control (CRISC)

National Occupational Classification: Analysis

The following discussion presents three occupations relevant to the field of Cybersecurity. The National Occupational Classification (NOC) provides a standardized framework for organizing the labour force in a coherent system. Statistics Canada has updated the NOC classifications in 2021 to provide a finer and more updated reflection of the labour market using five digits instead of four for the NOC codes and corresponding it to the updated six-category training, education, experience and responsibilities (TEER) system.

Despite this update, many sources of labour market information have not yet transformed their database from the 2016 NOC structure to the 2021 NOC structure. Hence, the following description identifies the relevant 2016 and 2021 equivalencies, but the discussion in this section relies upon the 2016 framework.

The following three NOC codes have been identified as relevant for employment in this area and are presented below both with the 2016 NOC number and title as well as the equivalent 2021 NOC number(s) and title(s).

- 2171 (2016) – Information Systems Analysts and Consultants equivalent to 21220 (2021) – Cybersecurity specialists, and 21222 (2021) – Information systems specialists (e.g., cybersecurity analyst, systems security analyst, IT security consultant, systems auditor);
- 2281 (2016) – Computer Network Technicians equivalent to 22220 (2021) – Computer Network and Web Technicians (e.g., computer network technician, system administrator, network administrator, server administrator);
- 2283 (2016) – Information Systems Testing Technicians equivalent to 22222 (2021) – Information Systems Testing Technicians (e.g., application testing technician, software tester, systems tester).

Labour Market Outlook

Occupational Classification: National

The table below displays wages, occupation statistics and employment outlook for occupations relevant to cybersecurity in Canada.

Wages, Occupational Statistics and Employment Outlook (National)					
2016 NOC Code - Occupation	Median Wage[50]	Employment in 2018	Median Age in 2018	Average Retirement Age in 2018	Outlook to 2028
2171 – Information Systems Analysts and Consultants	$42.16	216,000	43	61	Shortage
2281 – Computer Network Technicians	$32.00	55,000	41	61	Balance
2283 – Information Systems Testing Technicians	$26.44	--	--	--	--

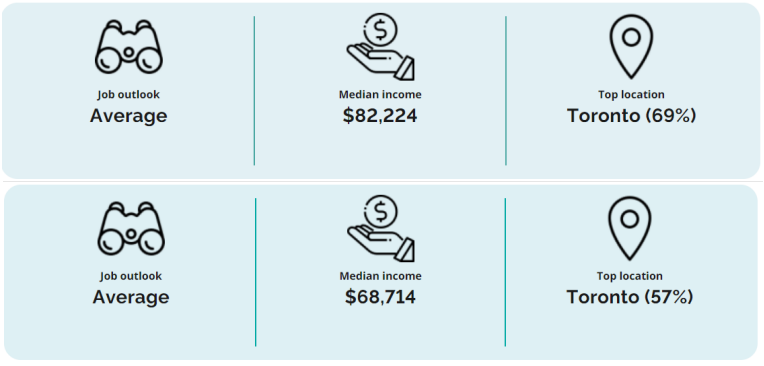
Source: Government of Canada Job Profiles https://www.jobbank.gc.ca/trend-analysis/search-occupations, accessed March 2023

The median wage for Information Systems Analysts and Consultants and Computer Network Technicians is above the national average for all occupations. A labour market shortage is projected for Information Systems Analysts and Consultants, meaning that at the national level the expected demand will exceed the labour supply. For Computer Network Technicians, a balanced labour market is projected through to 2028. At the national level, limited information is available for Information Systems Testing Technicians during this projection period.

Provincial Outlook

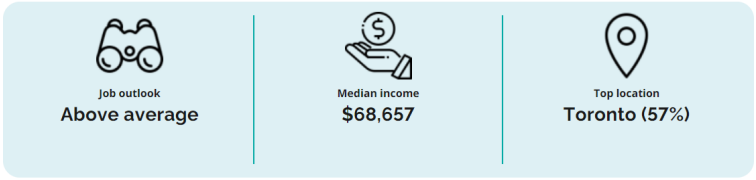
Occupational Classification: Provincial

The figure below displays the provincial job outlook rating (2021-2025) and median income for occupations relevant to cybersecurity.



[50] Average Median Wages - All occupations at National level = $27.88 (October 2022, Labour Force Survey)

2283 – Information Systems Testing Technicians



Source: MCU Ontario Job Profiles, accessed February 2023, https://www.services.labour.gov.on.ca/labourmarket

The outlook for relevant occupations is most favourable for Information Systems Testing Technicians at the provincial level. The top location of employment for all three occupations is Toronto. The median income for all three occupations is substantially higher than the Ontario average of $55,121.

Additional labour market information is available through the Government of Ontario Job Profiles for select NOC codes. The table below presents summary job profile statistics provided by the Government of Ontario for all NOCs that relate to the proposed Bachelor of Cybersecurity.

Provincial Summary Job Profile Statistics					
2016 NOC Code - Occupation	**Males[51]**	**Females**	**Full-Time**	**Part-Time[52]**	**Self-Employed[53]**
2171 – Information Systems Analysts and Consultants	72%	28%	77%	23%	14%
2281 – Computer Network Technicians	79%	21%	78%	22%	5%
2283 – Information Systems Testing Technicians	53%	47%	72%	28%	5%

Source: MCU Ontario Job Profiles, accessed March 2023, https://www.services.labour.gov.on.ca/labourmarket

The table above demonstrates that the proportion of full-time employment is high for all occupations. There is limited opportunity for self-employment for Computer Network Technicians and Information Systems Testing Technicians. Information Systems Analysts and Consultants and Computer Network Technicians have a higher-than-average proportion of male employees.

The table below displays the education level of employees in relevant occupations in Ontario.

[51] Average Male to Female Ratio – All occupations in Ontario = 53%/47% based on Working in Canada (2021, Labour Force Survey)
[52] Average Part-Time work – All occupations in Ontario = 17% (2021, Labour Force Survey)
[53] Average Self-Employment – All occupations = 15% based on Working in Canada (2018, Labour Force Survey)

Educational Attainment			
Education Level	**2171 – Information Systems Analysts and Consultants**	**2281- Computer Network Technicians**	**2283 – Information Systems Testing Technicians**
No certificate, diploma or degree:	0%	2%	1%
Secondary (high) school diploma or equivalency certificate	10%	17%	13%
Apprenticeship or trades certificate or diploma	1%	2%	1%
College, CEGEP or other non-university certificate or diploma	23%	41%	21%
Bachelor's degree	42%	26%	44%
Degree in medicine, dentistry, veterinary medicine or optometry	0%	0%	0%
Master's degree	17%	6%	14%
Earned doctorate	1%	0%	0%
Other	6%	5%	6%

Source: MCU Ontario Job Profiles www.services.labour.gov.on.ca/labourmarket, accessed March 2023

According to the data provided in the table above, a bachelor's degree is the most common credential for Information Systems Analysts and Consultants and Information Systems Testing Technicians, with a college certificate or diploma being the second most common credential. A college certificate or diploma is the most common credential for Computer Network Technicians, with a bachelor's degree being the second most common credential type for this occupation category.

The table below presents provincial employment opportunities for each relevant occupation. Within each column, the per centages indicate the distribution of all individuals employed in the corresponding occupation across the select census divisions.

Employment Share by Census Division				
Census Division	**All Occupations**	**2171 – Information Systems Analysts and Consultants**	**2281- Computer Network Technicians**	**2283 – Information Systems Testing Technicians**
Durham	**5%**	5%	5%	3%
Toronto	**21%**	27%	22%	24%
Peel	**10%**	15%	13%	13%

Employment Share by Census Division				
Census Division	**All Occupations**	**2171 – Information Systems Analysts and Consultants**	**2281- Computer Network Technicians**	**2283 – Information Systems Testing Technicians**
York	**9%**	15%	12%	14%
Peterborough	**1%**	0%	1%	0%
Northumberland	**1%**	0%	0%	0%
Kawartha Lakes	**1%**	0%	0%	0%
Ottawa	**7%**	13%	12%	23%

Source: MCU Ontario Job Profiles, accessed March 2023, www.services.labour.gov.on.ca/labourmarket

The table above highlights that Toronto has the highest share of total employment for all occupations. Each of the three occupations are highly concentrated in Toronto and the surrounding municipalities, indicating a significant number of individuals working in these occupations in the GTA. Notably, Information Systems Testing Technicians also have a high concentration of employment in Ottawa.

The table below displays the sectors in which the relevant occupations are employed.

2171 – Information Systems Analysts and Consultants		2281- Computer Network Technicians	
43%	Professional, scientific and technical services	**27%**	Professional, scientific and technical services
20%	Finance and insurance	**14%**	Information and cultural industries
13%	Public administration	**13%**	Public administration
12%	All other industries	**12%**	Finance and insurance

2283 – Information Systems Testing Technicians	
50%	Professional, scientific and technical services
18%	Finance and insurance
13%	Public administration
11%	Information and cultural industries

Source: MCU Ontario Job Profiles, accessed March 2023, https://www.services.labour.gov.on.ca/labourmarket

Occupations relevant to the proposed Bachelor of Cybersecurity program are common in the Professional, Scientific, and Technical Services, Finance and Insurance, and Public Administration industries.

The table below presents an occupation summary for Ontario and select census divisions for 2171 – Information Systems Analysts and Consultants; 2281 – Computer Network Technicians; and 2283 – Information Systems Testing Technicians. The occupation summary includes the number of jobs available in 2020, as well as the projected number of jobs in 2025.

Occupation Summary (Ontario and Select Census Divisions) – 2020 & 2025					
Region	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**	**Median Hourly Wages**
Ontario	**116,599**	**147,135**	**30,536**	**26%**	**$39.50**
Durham	3,436	4,548	1,112	32%	$39.78
Toronto	44,209	58,316	14,107	32%	$39.80
Peel	16,033	20,454	4,421	28%	$39.71
York	11,910	15,957	4,047	34%	$39.70
Peterborough	339	436	97	29%	$35.03
Northumberland	107	127	20	19%	$35.25
Kawartha Lakes	147	171	24	16%	$35.27

Source: Labour Force Survey, Lightcast Analyst 2022.3, accessed: March 2023

There are many jobs likely to be created by 2025 in these three occupations combined, specifically in the Toronto, Peel, York and Durham census divisions. Durham Region is projected to gain 1,112 jobs over the period, bringing the total number of available jobs in these occupations to 4,548 by 2025. Additionally, these jobs are compensated at rates similar to higher paying urban centres such as Toronto. It should also be noted that the per centage change signifying growth is highest in Durham, Toronto, York and Peterborough, indicating positive labour market outcomes for job seekers in these areas.

The table below presents self-employment information for the selected NOC codes related to the proposed Bachelor of Cybersecurity.

Self-Employment (Ontario and Select Census Divisions) – 2020			
Region	**2171 – Information Systems Analysts and Consultants**	**2281- Computer Network Technicians**	**2283 – Information Systems Testing Technicians**
Ontario	**30,148**	**509**	**128**
Durham	1,136	17	<10

Self-Employment (Ontario and Select Census Divisions) – 2020			
Region	**2171 – Information Systems Analysts and Consultants**	**2281- Computer Network Technicians**	**2283 – Information Systems Testing Technicians**
Toronto	11,605	151	58
Peel	3,768	55	19
York	4,448	60	23
Peterborough	91	<10	<10
Northumberland	77	<10	<10
Kawartha Lakes	40	<10	0

Source: Labour Force Survey, Lightcast Analyst 2022.3, accessed: March 2023

Local Outlook

Occupational Classifications: Region of Durham

The table below presents the number of jobs and hourly wages for all relevant occupations within the Durham census division.

Durham Region Employment Outlook - 2020 & 2025					
2016 NOC	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**	**Median Hourly Wages**
2171 – Information Systems Analysts and Consultants	2,770	3,819	1,049	38%	$41.23
2281 – Computer Network Technicians	545	591	46	8%	$34.19
2283 – Information Systems Testing Technicians	121	137	16	13%	$28.17
Total	**3,436**	**4,548**	**1,112**	**32%**	**--**

Source: Labour Force Survey, Lightcast Analyst 2022.3, accessed: March 2023

The greatest number of jobs expected in the Durham census division will be in the occupations categorized as Information Systems Analysts and Consultants.

Industry Summary

The North American Industry Classification System (NAICS) provides a standardized framework for classifying industries present in any given geographic region. Although cybersecurity is often perceived to be concentrated in computer systems and design, similar occupations exist in other industries as well. NAICS 5415 – Computer systems design and related services, 5112 – Software publishers, 5221 – Depository credit intermediation (includes banks), and 9130 – Local, municipal and regional public administration (includes local government).

The table below presents the number of employers in each industry by census divisions close to Durham Region.

Number of Employers in Related Industries Based on Census Division							
NAICS Code – Occupation	Durham	Toronto	York	Peel	Northumberland	Peterborough	Kawartha Lakes
5415 – Computer systems design and related services	858	21	3,837	3,893	23	41	17
5112 – Software publishers	16	289	128	99	1	3	1
5221- Depository credit intermediation	109	689	242	235	21	28	14
9130 – Local, municipal and regional public administration	16	5,557	15	21	8	12	4
Total	**999**	**6,556**	**4,222**	**4,248**	**53**	**84**	**36**

Source: Canadian Business Patterns, Lightcast Analyst 2022.3, accessed: February 2023

When combining Durham, Peel, York and Toronto, there are a significant number of employers in the GTA in relevant industries.

The table below presents relevant industry employers located in the Durham census division according to the number of employees.

Number of Employers in Durham Census Division (by employer size)								
NAICS Code – Occupation	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500 +
5415 – Computer systems design and related services	820	23	10	2	3	0	0	0
5112 – Software publishers	13	1	0	1	0	0	1	0
5221- Depository credit intermediation	2	14	60	32	1	0	0	0
9130 – Local, municipal and regional public administration	0	0	0	0	3	3	4	6
Total	**835**	**38**	**70**	**35**	**7**	**3**	**5**	**6**

Source: Labour Force Survey, Lightcast Analyst 2022.3, accessed: February 2023

Although there are relatively few employers in the Local, Municipal and Regional Public Administration category, these employers are larger in size. Computer Systems Design and Related Services and Depository Credit Intermediation employers in the Durham Region tend to be smaller but more numerous.

Graduate Outcomes

The table below presents 2017-18 graduate outcomes for graduates of MTCU 80509, Bachelor of Applied Information Sciences (Information Systems Security) programs in the Ontario CAAT system.

Summary of 2017-18 Graduates Bachelor of Applied Information Sciences (Information Systems Security) MTCU 80509		
Outcome	**MTCU 80509**	**All Programs (System)**
Total Graduates	N/A	100,313
% of Graduates in Survey	N/A	51.8%
Graduate Satisfaction	N/A	78.0%
Labour Force Participation[54]	N/A	71.0%
Employment Rate	N/A	86.2%
Employed Full-Time	91.7%	70.7%
Average Annual Income (Full-Time)	N/A	$35,000
Employed Full-Time (Related/ Partially Related)	91.7%	51.8%
Average Annual Income (Related Employment)	N/A	$37,000
Unemployment Rate	N/A	13.9%

The table below displays the top five occupations for graduates of MTCU 80509, Bachelor of Applied Information Sciences (Information Systems Security) programs in the CAAT system. The majority of graduates find work as information systems analysts and consultants or computer network technicians.

Top Five Occupations Bachelor of Applied Information Sciences (Information Systems Security)- MTCU 80509	
Occupation	**%**
Information Systems Analysts and Consultants (2171)	69%
Computer Network Technicians (2281)	16%
Computer Programmers and Interactive Media Developers	6%
Software Engineers and Designers (2173)	3%
Security Guards and Related Security Service Occupations (6541)	3%

[54] Graduates who were either employed or looking for work during the reference week.

6. Student Interest

Current Student Interest at Durham College

There is a large pool of graduates from programs at DC that may have the opportunity to continue their education with the three-year Bachelor of Cybersecurity degree program. Both student and graduate interest for the proposed program were further explored through surveys.

Students from seven programs were assessed for their level of interest in the proposed three-year Bachelor of Cybersecurity program. Of the 143 respondents, 55 per cent were enrolled in the highly-related Computer Systems Technician diploma (includes regular and Ontario Tech transfer streams) or Computer Systems Technology advanced diploma (regular and co-op streams) programs at DC. The remaining 45 per cent were enrolled in the related Computer Programming diploma or Computer Programming and Analysis advanced diploma (regular and co-op streams) programs.

"The need for cybersecurity skills is only going up as businesses go more digital and network security is always in need of updating to avoid attacks. The program would give students specific sought-after employment skills."

The majority of students (98 per cent) indicated they believe offering a three-year Bachelor of Cybersecurity degree program is a good idea. Further, all respondents from the highly-related Computer Systems Technician diploma program, and 97 per cent of respondents from the highly-related Computer Systems Technology advanced diploma program, believe offering a three-year Bachelor of Cybersecurity degree program is a good idea. Student comments further affirmed this understanding.

Approximately 59 per cent of students expressed interest in enrolling in the proposed Bachelor of Cybersecurity degree program. Interest in potential enrolment was highest among students in the Computer Systems Technology advanced diploma program (65 per cent) followed by the Computer Systems Technician diploma program (63 per cent). Overall, student interest in enrolling in the program increased substantially if they were likely to be granted credit transfer, with 87 per cent of the students surveyed indicating they would be more likely to enrol in the Bachelor of Cybersecurity degree program if that was the case.

Among the students surveyed, a majority (92 per cent) believe a Bachelor of Cybersecurity degree program would make a difference in the number of potential employment opportunities available. This trend was particularly prevalent among students enrolled in the Computer Systems Technology advanced diploma program (97 per cent). Further, 74 per cent of students believe the proposed Bachelor of Cybersecurity degree

"It will allow graduates more opportunities and decrease the time for them to get a job. It is also an ever changing and needed career, so adding a bachelor's degree will add more incentive to apply."

will make a difference in the type of jobs available upon graduation.

Alumni Interest

DC conducted a survey to understand whether there was support among the graduates of related programs in pursuing the proposed three-year Bachelor of Cybersecurity degree. In total, there were 43 responses to the survey from graduates of seven related programs.

"As a transfer student from DC to OT, I didn't end up learning very much from the University that wasn't covered in my 2-year college program. Having a more hands on focused cybersecurity course would make the college very competitive and create students that are more prepared for the workforce. I would have chosen to pursue the college bachelor over the university bachelor if I was choosing right now, especially if the 3 years is shortened with credit transfers."

A total of 47 per cent of alumni surveyed expressed interest in pursuing a Bachelor of Cybersecurity degree. The alumni most interested in pursuing the proposed degree program were graduates of the Computer Systems Technology program (53 per cent) followed by graduates of the Computer Programming/Analysis programs (47 per cent). The availability of credit transfer increased alumni's likelihood to enrol in the proposed Bachelor of Cybersecurity degree. Seventy-seven per cent of alumni said they would likely enrol in the proposed degree if they were granted credit transfer. More specifically, 85 per cent of Computer Systems Technician graduates, 80 per cent of Computer Programming/Analysis graduates, and 67 per cent of Computer Systems Technology graduates indicated they would likely enrol in the cybersecurity degree program if granted credit transfer.

Alumni were also asked whether offering a three-year Bachelor of Cybersecurity degree program would be a good idea. The majority of alumni (91 per cent) indicated they believed offering the degree would be a good idea. The alumni most likely to indicate that the proposed degree is a good idea were graduates of the Computer Programming/Analysis programs (93 per cent) followed by graduates of the Computer Systems Technician program (92 per cent).

"This degree program would be a great opportunity for students to learn and gain experience in the competitive and fast-growing cybersecurity field while also attaining one of the most sought out credentials in said field in the form of a degree."

7. Analysis of Competition

Several universities in Ontario, including Ontario Tech University (ONTech), offer bachelor's degree programs which prepare graduates for careers in cybersecurity. The majority of these programs are offered as a Bachelor of Information Technology or Bachelor of Computer Science with a specialization, or major in cybersecurity. Graduates of the proposed Bachelor of Cybersecurity degree at DC will be better prepared to meet the current labour market demand than graduates from university programs as they will benefit from the breadth and depth of knowledge provided by degree level education, and the greater focus on practical application of knowledge and skills provided by a college education.

Sheridan College offers an Honours Bachelor of Applied Information Sciences (Information Systems Security) though this program is different from the one proposed at DC. The program at Sheridan focuses primarily on securing systems through cryptographic algorithms. The proposed degree at DC will provide graduates with the knowledge and skills necessary to secure systems using a variety of different tools and is designed to provide more in-depth knowledge of specialized topics such as penetration testing, mobile device security, cloud/internet of things (IoT) security, blockchain security and identity management. The proposed program will also place a greater emphasis on professional development as a learning outcome by providing numerous opportunities for students to develop their skills in leadership, project management and strategic planning.

8. Target Market

The target market for this degree program is direct-entry from secondary education. Additionally, this program may be of interest to students with diplomas/advanced diplomas from:

1. Computer Foundations (OCC).
2. Computer Systems Technician (OCD).
3. Computer Systems Technician (OCAD).
4. Computer Programming (OCD).
5. Computer Programming and Analysis (OCAD).

9. Operating Revenue and Expenses

The following tables summarize the net contribution for the proposed Bachelor of Cybersecurity, Ontario College Bachelor Degree (3-year) program.

Student Enrolment	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Projected enrolment (Semester 1 Intake, Year 1)	25	25	25	25	25	25	25	25	25
Projected enrolment (Semester 1 Intake, Year 2)	-	21	21	21	21	21	21	21	21
Projected enrolment (Semester 1 Intake, Year 3)	-	-	20	20	20	20	20	20	20
Projected enrolment (Semester 1 Intake, Year 4)	-	-	-	-	-	-	-	-	-
Total Enrolment	**25**	**46**	**66**	**66**	**66**	**66**	**66**	**66**	**66**

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	**149,867**	**291,032**	**359,643**	**370,316**	**381,315**	**392,656**	**404,346**	**416,398**	**428,822**
Total Revenue for Program	**$222,941**	**$415,124**	**$600,173**	**$604,093**	**$608,013**	**$611,999**	**$616,052**	**$620,104**	**$624,223**

New Program Summary

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Net Surplus (Deficit) for Year - $	**$73,074**	**$124,091**	**$240,530**	**$233,777**	**$226,697**	**$219,343**	**$211,706**	**$203,706**	**$195,401**
Accumulated Surplus / (Deficit)	**$73,074**	**$197,166**	**$437,696**	**$671,473**	**$898,170**	**$1,117,514**	**$1,329,219**	**$1,532,925**	**$1,728,327**
Net Surplus (Deficit) for Year - %	**33%**	**30%**	**40%**	**39%**	**37%**	**36%**	**34%**	**33%**	**31%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$249,750**	**$0**	**$0**	**$0**	**$0**	**$50,000**	**$0**	**$0**	**$0**

Revenue	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Funding Unit Generated (estimated weight – 0.761)	19.0	35.2	50.6	50.6	50.6	50.6	50.6	50.6	50.6
Grant Value per Funding Unit	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149
Tuition Fee for 2 Semesters ($6400) – Net of TSA	$5,760	$5,818	$5,876	$5,935	$5,994	$6,054	$6,115	$6,176	$6,238
Grant Revenue	$78,941	$146,041	$209,786	$209,786	$209,786	$209,786	$209,786	$209,786	$209,786
Tuition Revenue	144,000	269,083	390,387	394,307	398,226	402,213	406,265	410,318	414,437
Incidental Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Revenue	**$222,941**	**$415,124**	**$600,173**	**$604,093**	**$608,013**	**$611,999**	**$616,052**	**$620,104**	**$624,223**

New Program Summary

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Co-ordinator premium	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225
FT Faculty*	0	99,433	102,416	105,488	108,653	111,912	115,270	118,728	122,290
PT Faculty	60,951	71,459	125,558	129,325	133,205	137,201	141,317	145,556	149,923
Faculty Clerical Support	14,174	14,600	15,037	15,489	15,953	16,432	16,925	17,433	17,956
Classroom Support technicians	14,241	14,668	15,108	15,561	16,028	16,509	17,004	17,515	18,040
Commons'/Library Support Technicians	11,321	11,661	12,010	12,371	12,742	13,124	13,518	13,923	14,341
Total Academic Salaries	**106,912**	**218,046**	**276,354**	**284,459**	**292,805**	**301,403**	**310,259**	**319,380**	**328,775**
Employee Benefits FT Faculty	1,587	26,943	27,703	28,487	29,294	30,125	30,981	31,863	32,771
Employee Benefits FT Support	11,921	12,279	12,647	13,026	13,417	13,820	14,234	14,661	15,101
Employee Benefits PT	9,447	11,076	19,462	20,045	20,647	21,266	21,904	22,561	23,238
Professional Development	0	1,989	2,048	2,110	2,173	2,238	2,305	2,375	2,446
Instructional Costs – Operating	10,000	10,500	11,025	11,576	12,155	12,763	13,401	14,071	14,775
Instructional Costs – Library	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717
Membership Dues	0	0	0	0	0	0	0	0	0
Student Supplies for 2 Semesters	0	0	0	0	0	0	0	0	0

New Program Summary

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Academic Expense	**149,867**	**291,032**	**359,643**	**370,316**	**381,315**	**392,656**	**404,346**	**416,398**	**428,822**
Total Expense	**$149,867**	**$291,032**	**$359,643**	**$370,316**	**$381,315**	**$392,656**	**$404,346**	**$416,398**	**$428,822**

* To include Faculty for Placement.

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	**149,867**	**291,032**	**359,643**	**370,316**	**381,315**	**392,656**	**404,346**	**416,398**	**428,822**
Total Revenue for Program	**$222,941**	**$417,769**	**$607,927**	**$615,889**	**$624,011**	**$632,296**	**$640,746**	**$649,365**	**$658,157**
Net Surplus (Deficit) for Year - $	**$73,074**	**$126,737**	**$248,284**	**$245,574**	**$242,696**	**$239,640**	**$236,400**	**$232,967**	**$229,335**
Accumulated Surplus / (Deficit)	**$73,074**	**$199,811**	**$448,095**	**$693,669**	**$936,365**	**$1,176,005**	**$1,412,405**	**$1,645,372**	**$1,874,707**
Net Surplus (Deficit) for Year - %	**33%**	**30%**	**41%**	**40%**	**39%**	**38%**	**37%**	**36%**	**35%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$249,750**	**$0**	**$0**	**$0**	**$0**	**$50,000**	**$0**	**$0**	**$0**

Public Report

Report Number: BOG-2023-65

To: Board of Governors

From: Dr. Elaine Popp, Executive Vice President, Academic

Date of Report: May 25, 2023

Date of Meeting: June 7, 2023

Subject: New Program of Instruction – Bachelor of Business Administration (Human Resources Management)

1. Purpose

To seek approval from the Board of Governors for the following post-secondary program of instruction for Fall 2025 intake:

Bachelor of Business Administration (Human Resources Management)

- Credential: Bachelor Degree
- Duration: Three years
- Faculty: Business

2. Recommendation

It is recommended to the Durham College Board of Governors:

That in accordance with Report BOG-2023-64, the Bachelor of Business Administration (Human Resources Management) degree program be approved.

3. Background

The rise of globalization and technological advancement in the past couple of decades has shifted Human Resources Management (HRM) further toward a strategic role in organizations. Transactional tasks such as payroll and benefits administration are increasingly being outsourced and automated, leaving more time for transformational tasks such as talent management and employee development. Today, the effectiveness of a Human Resources (HR) practitioner is often measured in terms of their ability to grow a business by effectively developing and utilizing the organization's resources, including the talent. The scope of HR practice has evolved to require an understanding of business strategy and innovation, in addition to service delivery and people skills.

There is growing demand for HR practitioners with the knowledge and skills to function as strategic business partners within the organizations in which they work. As a result of current social changes and the COVID-19 pandemic, organizations are facing immense pressure to increase their focus on employee experience, equity, diversity and inclusion, and corporate social responsibility.[1] Further, employee retention is becoming more challenging as individuals resign from their current positions to seek careers with higher wages, better benefits and a favourable work-life balance.[2] Consequently, organizations are in need of highly skilled HR practitioners capable of identifying optimal pathways, so they can continue to experience success in this new world of work.[3]

The Bachelor of Business Administration (Human Resources Management) program provides students with in-depth and practical knowledge of HR practices and solutions to contribute effectively to the management of different business environments. Students will develop critical and systems-level thinking skills, explore leadership theories and practical strategies to manage change, and use data to inform strategic organizational decision-making. Students will be prepared to work effectively with various communities, and in organizational and institutional settings, leveraging their business acumen and understanding of organizational functions when engaging as an HR practitioner.

Graduates will have the knowledge and skills to support businesses in developing evidence-informed policies and processes, to adopt industry best practices and impact organizations positively. Graduates will be ready to enter the workforce with the skills to offer strategic direction to employers in order to address current labour market needs and future industry-related needs in a global business environment. The program includes a mandatory work integrated learning opportunity of 420 hours to support graduate entry into the field as an HR practitioner. The program will prepare graduates to qualify for the academic component of the Human Resources Professional Competency Framework (Human Resources Professionals Association (HRPA)) certification, and for application to relevant undergraduate and graduate programs.

Employment opportunities are available in a variety of business and government environments as Administrative Officers, Human Resources and Recruitment Officers, Human Resources Coordinator Roles, Human Resources Generalist roles and Talent Acquisition Professionals.

As per the Ministry of Training, Colleges and Universities' Minister's Binding Policy Directive 3.0, Programs, Framework for Programs of Instruction, the Board

[1] McLean & Company, HR Trends Report (2022)
[2] Is the great resignation over? https://www.hrpa.ca/hr-insights/is-the-great-resignation-over
[3] Leading HR Job Trends to Watch in 2022, https://www.randstad.ca/employers/workplace-insights

of Governors is responsible for approving programs of instruction the college will offer.

It is the role of the DC Board of Governors to ensure that programs of instruction are developed and implemented in conformity with the Credentials Framework, and are consistent with provincial program standards where they exist. It is also the responsibility of the Board to ensure that all new and modified post-secondary programs of instruction lead to one of the following credentials: Durham College Certificate, Ontario College Certificate, Ontario College Diploma, Ontario College Advanced Diploma, Ontario College Graduate Certificate or Bachelor Degree.

We confirm that DC is in compliance with all Minister's Binding Policy Directives as noted above, for this new program of instruction.

4. Discussion

Based on the environmental scan, it is expected that the proposed Bachelor of Business Administration (Human Resources Management) will be a meaningful addition to the offerings at DC. The proposed three-year degree program will provide a strong theoretical foundation and knowledge of specialized topics in business and human resources. The proposed program will provide individuals with flexibility to achieve their career goals, and expedite entry into the workforce as compared to existing four-year degree programs.

After a review of the need for the proposed program, DC determined it would be meaningful to add this degree to its postsecondary offerings because of the:

- Increased demand for HR practitioners with strong business acumen and change management skills.
- Expanded scope of HRM practice.
- Deeper theoretical knowledge of specialized topics in HR and business than in existing diploma programs.
- Viable pathway to further education for graduates of human resources diploma programs.

Although a professional designation is not mandatory for human resources practitioners in Canada, most jobs consider it an asset and is likely to be required for mid and senior level positions.[4] While many different accrediting and licensing bodies exist, the most widely recognized in Ontario is the HRPA which offers three-levels of professional designation for human resources practitioners, two of which are relevant to the current proposed degree program.[5]

[4] National Occupation Classification, https://noc.esdc.gc.ca/Structure/NocProfile
[5] HRPA Designations, https://www.hrpa.ca/designations/

The Certified Human Resources Professional (CHRP) designation offers accreditation to individuals with demonstrated HR expertise, and is often held by individuals in entry-level positions that focus on service delivery and administration.[6] The Certified Human Resources Leader (CHRL) designation provides accreditation to individuals with the knowledge and skills that would allow them to operate effectively in mid- to senior level HR roles that have a more strategic component.[7] To work effectively in strategic HRM roles and achieve a CHRL designation, HR practitioners require a combination of in-depth HR expertise, business acumen and change management skills.[8]

5. Financial/Human Resource Implications

The Program Summary attached provides a projected nine-year budget with account of all capital and human resource requirements.

The proposed new program breaks even in Year 2.

The proposal for the new Bachelor of Business Administration (Human Resources Management) will be submitted to the Ministry of Colleges and Universities (MCU) for quality review by the Postsecondary Education Quality Assessment Board (PEQAB) in Fall 2023.

6. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

7. Implications for Ontario Tech University

While Ontario Tech University offers a four-year Honours Bachelor of Commerce – Organizational Behaviour and Human Resources (major) program, DC's proposed three-year Bachelor of Human Resources will offer students the opportunity to expedite entry into the workforce with the strong foundation of knowledge and skills and experiential learning required for successful HR professionals. Pathway opportunities from DC's program to the Ontario Tech program will be considered in the future.

8. Strategic Alignment

8.1 Strategic Fit

The proposed program aligns with the following goals of the Academic, Strategic, and Business plans.

[6] HRPA CHRP Designation, https://www.hrpa.ca/designations/chrp
[7] HRPA CHRL Designation, https://www.hrpa.ca/designations/
[8] Beatty (2019)

Academic Plan
Goal 1: Ensure Exceptional Quality in our Academic Programs
Goal 2: Enhance Exemplary Teaching and Learning Practices

Strategic & Business plans
Pillar: Our Students

This aligns with Goal 1 of the Academic Plan: Ensure exceptional quality in our academic programs, and the student pillar of the Strategic Plan and Business Plan: Educate and inspire students to realize success in their careers and communities. DC is prepared to support students and graduates by responding to the changing student populations' expectations, employer needs, professional practices and workplace technologies.

8.2 Fit with Existing Programs

There are currently several Ontario College Diploma and Advanced Diploma programs offered by DC that have the potential to serve as pathways for students into the Bachelor of Business Administration (Human Resources Management).

New Program Summary

General Program Information

Proposed Program Title: Bachelor of Business Administration (Human Resources Management)

Proposed Credential: Bachelor Degree (3-year)

Academic Dean(s): Dr. Kevin Baker, Executive Dean

Faculty: Business

Date of Review by PPRC: May 10, 2023

MTCU Code: #80223

Weight and Funding Unit (as per APS table): Weight = 1, Funding = 3.4

Proposed Tuition: Year 1: $6,100 (domestic); $17,907.82 (international)

Classification of Instructional Program (CIP) Code(s): Human Resources Management/Personnel Administration, general (52.1001)

NOC Code(s):

- 1121 (2016) – Human resources professionals equivalent to 11200 (2021) – Human resources professionals (e.g., human resource generalist, human resources consultant, staff training and development officer);
- 1223 (2016) – Human resources and recruitment officers equivalent to 12101 (2021) – Human resources and recruitment officers (e.g., human resources office, recruitment specialist, personnel officer);
- 0112 (2016) – Human resources managers equivalent to 10011 (2021) – Human resources managers (e.g., occupational health and safety manager, employee relations manager, human resources manager).

Proposed Implementation: Fall 2025

Year 1 Enrolment: 25

Number of Sections, Y1: 1

International Students Seat Allocation: 3

Number of Semesters: Six academic semesters + One WIL semester

Total Hours: 1400 instructional hrs + 420 hrs = 1820 hrs

New or Replacement Program: New

Number of New FT/PT Faculty: 8 PT/year; 1 FT (year 1) and 1 FT (year 3)

Program Delivery Methods: Classroom, online, field placement

Laptop Requirement: No

New or Renovated Space Requirements: No

Total Capital Costs: Year 1: None

1. Approval Stages

The following approval stages have been assessed for this program:

☒ Escan: Labour Market Analysis and for degrees: Student Demand
☒ Budget reviewed and approved by the Chief Financial Officer
☒ Presented to the Program Proposal Review Committee (DATE: May 10, 2023)
☒ New Program Proposal Summary reviewed by the Associate Dean, Centre for Teaching and Learning (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed by the Executive Dean, Centre for Teaching and Learning (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed and approved by Executive Vice-President, Academic (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed and approved by President (DATE: May 30, 2023)

2. Program Overview

2.1 Program Description

The Bachelor of Business Administration (Human Resources Management) program provides students with in-depth and practical knowledge of human resources (HR) practices and solutions to contribute effectively to the management of different business environments. Students will develop critical and systems-level thinking skills, explore leadership theories and practical strategies to manage change and use data to inform strategic organizational decision-making. Students will be prepared to work effectively with various communities, and in organizational and institutional settings leveraging their business acumen and understanding of organizational functions when engaging as an HR practitioner.

Graduates will have the knowledge and skills to support businesses in developing evidence-informed policies and processes to adopt industry best practices and impact organizations positively. Graduates will be ready to enter the workforce with the skills to offer strategic direction to employers in order to address current labour market needs and future industry related needs in a global business environment. The program includes a mandatory work integrated learning opportunity of 420 hours to support graduate entry into the field as an HR practitioner. The program will prepare graduates to qualify for the academic component of the Human Resources Professional Competency Framework (Human Resources Professionals Association (HRPA)) certification, and for application to relevant undergraduate and graduate programs.

The program prepares graduates for employment opportunities in a variety of business or government environments. Career possibilities may include Administrative Officers, Human Resources and Recruitment Officers, Human

Resources Coordinator Roles, Human Resources Generalist roles, and Talent Acquisition Professionals.

2.2 Vocational Program Learning Outcomes

Vocational program learning outcomes must be consistent with the requirements of the Credentials Framework for the proposed credential. The graduate of the program has reliably demonstrated the ability to:

1. Plan, develop and evaluate talent acquisition and retention strategies and processes to ensure alignment with organizational objectives.
2. Design performance management programs in alignment with evidence-informed practices to support the attainment of organizational objectives.
3. Design employee development programs in alignment with evidence-informed practices to optimize organizational learning.
4. Analyze human resource management processes and labour relations strategies in unionized and non-unionized environments to make recommendations that support productive relations between employees, unions, and management.
5. Develop and communicate the organization's total reward strategy and its administration in alignment with the organization's objectives.
6. Develop, implement and evaluate Occupational Health and Safety (OHS) policies and practices to ensure compliance with legislation and the health, safety and well-being of the workplace.
7. Assess the ethical and legal implications of organizational decision-making principles for the purpose of developing and promoting policies that support the equity, diversity, and, accountability of an organization.
8. Analyze quantitative and qualitative operational, financial, and employee data and metrics to make data-drive human capital related decisions that improve organizational effectiveness.
9. Develop human capital solutions to business opportunities that maximize performance and support the attainment of organizational objectives.
10. Recommend human resource management strategies by applying evidence-informed organizational behaviour and cultural theories to effectively support planned and unplanned organizational change.
11. Assess professional and interpersonal goals to determine learning needs for ongoing competence in human resources professional practice.

2.3 Admission Requirements

Ontario Secondary School Diploma (OSSD) or Mature Student Status
AND
Grade 11 mathematics (C, M or U)

2.4 Differentiation (Within DC)

DC is well positioned to offer a Bachelor of Business Administration (Human Resources Management) degree program. The Faculty of Business offers a suite of HR programs to support students to access education for their specific needs.

3. Program of Study

3.1 Work Integrated and Experiential Learning

Work Integrated Learning Opportunities

- ☐ Co-op (Mandatory)
- ☐ Co-op (Optional)
- ☐ Clinical placement
- ☐ Field/Work Placement
- ☐ Skills Lab that simulates workplace environment (e.g., clinical skills lab used by nursing students to practice on life-like patient models, “fieldwork”)
- ☒ Degree work placement – Mandatory

Experiential Learning Opportunities Aligned with SMA3 Definition

- ☒ Capstone (solving a real problem through applied research)
- ☐ Industry or Community Agency-Sponsored Research Project
- ☐ Service Learning (bridges community service and required for a course)
- ☐ Faculty-led Study Abroad

Experiential Learning Opportunities Not Aligned with SMA3 Definition - Co-curricular Activities

- ☐ Bootcamp/Hackathon
- ☐ Mentorship/Career Exploration
- ☐ Research/Teaching Assistantship
- ☐ On-campus Work Experience
- ☐ Work Study
- ☐ Volunteerism

Describe, briefly, the opportunity(ies) in the proposed program; whether it is consistent with the opportunity(ies) offered at other colleges; if different, why.

Work Integrated Learning (WIL) refers to “the process whereby students come to learn from experiences in educational and practice settings and integrate the contributions of those experiences in developing the understandings, procedures, and dispositions required for effective professional practice, including criticality”.[1] At present, there are no three-year degrees in HR in the CAAT system. The

[1] Billet, S. (2009b) Realising the educational worth of integrating work experience in higher education. Studies of Higher Education, 34 (7), 827-843.

proposed three-year program will provide students the opportunity to expedite entry into the workforce, with a mandatory 14-week, 420-hour work term acting as a unique opportunity to gain hands-on experience in a real-world setting between years two and three.

This program will provide students with an option to earn a baccalaureate-level credential and have the knowledge, skills and experiential learning that will enable them to enter the workforce as an HR professional in just three years.

Program Map

YEAR 1		YEAR 2			YEAR 3	
Semester 1	**Semester 2**	**Semester 3**	**Semester 4**	**(Spring/ Summer)**	**Semester 5**	**Semester 6**
Principles of HR Management	Occupational Health, Safety and Wellness	Organizational Behaviour and Change	Learning and Organizational Development	Work Integrated Learning (420 hours)	Employee and Industrial Relations	HR Metrics and Data Analytics
Introduction to Canadian Business Environment	Introduction to Economics	Talent Acquisition and Management	Canadian Employment Law Practices		HR Planning	Organizational Leadership and Navigating Change
Fundamentals of Business Communications	Principles of Marketing	Financial and Managerial Accounting	Total Rewards		Negotiation, Mediation and Dispute Resolution	Capstone
Business Computer Applications Fundamentals (Word/PPT/Excel)	Principles of Finance	Operations Management	HR Technology and Information Systems		Critical Thinking and Professional Practice	
		Business Statistics	WIL Preparation		Project Management for HR Professionals	Breadth
Breadth	Breadth		Breadth			Breadth

HR Expertise	Business Acumen	Strategic Thinking/Change Management

Semester 1

Course Title: Principles of HR Management
Course description: Students examine the strategic role of the human resources professional. An emphasis is on the diverse components of the HR profession and how these components support organizational effectiveness. Students examine organizational goals and strategic objectives, job analysis, training and development, recruitment and selection, planning, performance management, employment legislation, and occupational health and safety. Students apply their knowledge and understanding of HR management to critically analyze and propose recommendations to improve organizational effectiveness. Successful completion of this course, with a minimum final grade of 65%, will qualify as an approved credit towards the academic component of the Certified Human Resources Professional designation (CHRP), or Certified Human Resources Leader designation (CHRL), designations granted by the Human Resources Professionals Association (HRPA). Please visit www.hrpa.ca for full details.
Instructional Setting: Classroom
Total Hours (Semester): 56

Course Title: Introduction to the Canadian Business Environment
Course description: Students examine the Canadian business environment. Students explore different business types, business structures, and management techniques. Through case studies, discussions and analysis of the current economic and business environment, students examine how the human resources function operates within the broader business environment. Finally, students examine forms of business ownership, competing in the global business environment and the economic and political realities of business in Canada today.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Fundamentals of Business Communication
Course description: Students develop communication strategies appropriate to their audience and intent. Emphasis is on crafting effective communications – both written and verbal. Students analyze barriers to effective communication and explore strategies to overcome these barriers through thematic reading and case studies. Communication skills are developed through research, writing and presenting, with a focus on communicating effectively with professionalism, clarity and purpose.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Business Computer Applications Fundamentals
Course description: Students utilize the fundamental business applications used today to communicate with internal and external stakeholders. Using these business applications, students prepare reports and spreadsheets, and deliver presentations. Students acquire the skills necessary to attempt industry standard certifications related to business applications.
Instructional Setting: Classroom
Total Hours (Semester): 56

Semester 2

Course Title: Occupational Health, Safety and Wellness
Course description: Students examine the roles and responsibilities of government, employers, unions, and workers in the current legislative environment regarding occupational health, safety and wellness. Students conduct research, interpret relevant legislation and apply best practices to develop policies and techniques to recognize, assess and control hazards in the work environment. Through case studies, students evaluate health, safety and wellness initiatives and produce recommendations that support compliance and increase the profile of the organization as a responsible corporate citizen. Successful completion of this course, with a minimum final grade of 65%, will qualify as an approved credit towards the academic component of the Certified Human Resources Professional designation (CHRP), or Certified Human Resources Leader designation (CHRL), designations granted by the Human Resources Professionals Association (HRPA). Please visit www.hrpa.ca for full details.
Instructional Setting: Classroom
Total Hours (Semester): 56

Course Title: Introduction to Economics
Course description: Students examine the impact of micro- and macro-economic concepts on the Canadian economy. Students explore economic theories and principles through media-covered issues, monetary policy announcements, and fiscal policies. Using real-world situations and case studies, students analyze the micro- and macro-economic controls that influence gross domestic product, economic growth, unemployment, inflation, supply, demand, and scarcity. Finally, students evaluate the effects opportunity costs, accounting profits, and borrowing costs have on various competitive market structures.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Principles of Marketing
Course description: Students apply the tools and techniques of marketing research and analysis to develop effective strategies that will improve revenue and market share. Through case studies, discussions, and analysis of current marketing practices in Canada, students examine product, price, promotion, and distribution frameworks as separate and integrated subsets of the marketing mix.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Principles of Finance
Course description: Students examine the theories and tools to perform financial analysis for a corporation. Students explore the information, logic, and processes that drive corporate financial decisions. Using real-world scenarios, case studies and practical exercises, students examine the impact of the application of financial insights and the resulting behaviours on corporate financial outcomes. Students explore financial statements, capital investment, financing options, and working capital management to manage corporate risk.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 3

Course Title: Organizational Behaviour and Change
Course description: Students analyze the impact of internal and external factors on profitability, productivity, culture and employee engagement to support making recommendations to enhance organizational effectiveness and change efforts. Students conduct research regarding the factors that influence individual and group behaviour in organizations. Students examine models of motivation, group dynamics, teamwork, change management and communication practices. Successful completion of this course, with a minimum final grade of 65%, will qualify as an approved credit towards the academic component of the Certified Human Resources Professional designation (CHRP), or Certified Human Resources Leader designation (CHRL), designations granted by the Human Resources Professionals Association (HRPA). Please visit www.hrpa.ca for full details.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Talent Acquisition and Management
Course description: Students develop strategies to utilize legally defensible and evidence informed practices when implementing effective recruitment, selection and retention policies and programs. Emphasis is on the examination of the socio-economic and legislative requirements that impact talent acquisition. Students critically evaluate recruitment and selection methods and provide recommendations that are centred on attracting and retaining an effective workforce. Successful completion of this course, with a minimum final grade of 65%, will qualify as an approved credit towards the academic component of the Certified Human Resources Professional designation (CHRP), or Certified Human Resources Leader designation (CHRL), designations granted by the Human Resources Professionals Association (HRPA). Please visit www.hrpa.ca for full details.
Instructional Setting: Classroom
Total Hours (Semester): 56

Course Title: Financial and Managerial Accounting
Course description: Students explore how financial accounting, management accounting, and finance are central to the operation of organizations. Students apply basic accounting principles to interpret financial data and prepare an operating budget to support decision making. An emphasis is placed on cost accounting fundamentals, extracting data from financial statements, analyzing cost behaviour, preparing operating budgets, and interpreting budgetary variances. Successful completion of this course, with a minimum final grade of 65%, will qualify as an approved credit towards the academic component of the Certified Human Resources Professional designation (CHRP), or Certified Human Resources Leader designation (CHRL), designations granted by the Human Resources Professionals Association (HRPA). Please visit www.hrpa.ca for full details.
Instructional Setting: Classroom
Total Hours (Semester): 56

Course Title: Operations Management
Course description: Students assess the role of supply chain and operational activities on the human resources function. Emphasis is on foundational knowledge of supply chain and operations management. Students analyze key issues and challenges

in supply chain and operations management by engaging with case studies, in discussion and analysis of current economic and business trends.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Business Statistics
Course description: Students explore statistical methods to collect, analyze, and present quantitative data. Through a combination of interactive lectures, on-line exercises, and software exercises, students apply statistical techniques to address business challenges and opportunities and to aid in the decision-making process.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 4

Course Title: Learning and Organizational Development
Course description: Students examine the process for designing and delivering organizational learning and development initiatives and the significance of the alignment to the strategic plan of an organization. Students explore needs assessment methods, formulation of training objectives, designing training programs, assessment of training methods, and international factors in training and development. Through the engagement of active learning activities, students design a learning plan, and design and deliver a learning facilitation for classmates. Successful completion of this course, with a minimum final grade of 65%, will qualify as an approved credit towards the academic component of the Certified Human Resources Professional designation (CHRP), or Certified Human Resources Leader designation (CHRL), designations granted by the Human Resources Professionals Association (HRPA). Please visit www.hrpa.ca for full detail.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Canadian Employment Law Practices
Course description: Students examine the impact of Canadian employment legislation, statutory and common law, and the judicial system on human resource management. Emphasis is on current federal and provincial legislation affecting the non-unionized environment. Students assess and apply statutory and common law to various cases and present their methodology and reasoning.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Total Rewards
Course description: Students examine intrinsic and extrinsic motivational theories and the theory and methodologies for designing and implementing organizational total rewards strategies. Students explore the financial and non-financial benefits of direct, indirect, and intangible compensation packages to develop differentiated strategic rewards objectives that achieve corporate objectives. Using real world scenarios and case studies, students evaluate labour markets to design total reward systems that inspire performance and deliver organizational outcomes.
Instructional Setting: Classroom
Total Hours (Semester): 56

Course Title: HR Technology and Information Systems
Course description: Students analyze the overall framework for implementing business records and information management systems. Students examine how the utilization of HR technology can optimize the HR function, talent management, performance management, compensation and workforce planning. Students explore the use of Human Resource Information Systems (HRIS) in the administration and management of human resources, how to assess needs and plan, implement and maintain an HRIS.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: WIL Preparation
Course description: This course is designed to prepare students for their field placement experience. Students will learn about the roles and responsibilities of those in the field of Human Resources, the various agencies and organizations in which they are employed, and the placement opportunities available that will facilitate progression towards their professional goals and aspirations. Students will be introduced to placement search techniques, field placement learning objectives, roles of agency supervisors, and college advisors. To succeed in this course, students will complete the necessary forms and paperwork required for field placement as well as participate in the selection process for field placement.
Instructional Setting: Classroom
Total Hours (Semester): 42

Work Integrated Learning

Course Title: Work Integrated Learning
Course description: The field placement work integrated learning experience is viewed as an integral part of the degree program. The practical aspects of field work, in conjunction with the academic studies, enables the student to better understand methods and techniques for organizing activities and working collaboratively with people. Field experiences contribute to meeting the program learning outcomes in different manner than in an academic setting.
Instructional Setting: Field
Total Hours (Semester): 420

Semester 5

Course Title: Employee and Industrial Relations
Course description: Students analyze the framework for industrial relations in Canada as it applies to employees, unions, and employers. Students explore the phases of labour relations: worker discontentment, the collective bargaining process, and administration of the collective agreement, and examine workplace disputes and unfair labour practices to understand the grievance process. Using real-world scenarios, case studies, and interactive simulations, students develop labour relation strategies and negotiate a collective agreement.
Instructional Setting: Classroom
Total Hours (Semester): 56

Course Title: HR Planning
Course description: Students examine how the HR function supports the overall strategic direction and success of an organization. Students explore the importance of aligning human resources planning with corporate and business strategies as well as the external environment. Students explore forecasting an organization's demand for and supply of human resources, succession planning, international HR, outsourcing, downsizing, and mergers and acquisitions. Successful completion of this course, with a minimum final grade of 65%, will qualify as an approved credit towards the academic component of the Certified Human Resources Professional designation (CHRP), or Certified Human Resources Leader designation (CHRL), designations granted by the Human Resources Professionals Association (HRPA). Please visit www.hrpa.ca for full details.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Negotiation, Mediation and Dispute Resolution
Course description: Students explore theoretical approaches to understanding and addressing inter- and intra-personal organizational conflict. Through case studies and role play, students discuss, analyze, and apply strategies to manage conflicts efficiently and effectively. Students examine Mental Health First Aid to improve mental health literacy. Students who attend the entire nine hours of Mental Health First Aid education will receive a Mental Health First Aid Certificate.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Critical Thinking and Professional Practice
Course description: Students examine the theory and methodologies of decision-making models to support a sound approach to problem solving and critical thinking. Through the exploration of business cases, the use of decision-making models and problem-solving strategies, students recommend solutions to support organizational effectiveness
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Project Management for HR Professionals
Course description: Students examine project management processes and tools to lower project risk and achieve corporate objectives. Emphasis is on utilizing strategies and techniques for the effective initiation, planning, execution, control and closing of projects. Using case studies and simulations, students apply resource management principles in a project setting to streamline work, support resources, and deliver organizational goals.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 6

Course Title: HR Metrics and Data Analytics
Course description: Students examine data acquisition, analytics, and visualization techniques that drive human capital decision making. Emphasis is on utilizing data analytics and visualization strategies and techniques to transform data into meaningful

information, to analyze data, to present and tell a story and generate data-driven recommendations that respond to organizational needs.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Organizational Leadership and Navigating Change
Course description: Students analyze theory and methodologies of leadership and change management, with an emphasis on equity, diversity, and inclusion. Students evaluate the capacity and opportunities of leadership for individuals, teams and organizations by utilizing assessment frameworks. Through discussion, case studies, and role play, students recommend initiatives to enhance organizational effectiveness.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Capstone
Course description: Students apply business, HR, leadership and change management theories and methodologies to complete a comprehensive situational analysis and formulate a comprehensive business plan with recommendations to enhance organizational effectiveness. Emphasis is on conducting primary and secondary research, utilizing time and project management tools, and employing critical thinking, communication and leadership skills.
Instructional Setting: Classroom
Total Hours (Semester): 42

4. Strategic Alignment

4.1 Strategic Fit

The proposed program aligns with the following goals of the Academic, Strategic, and Business plans.

Academic Plan
Goal 1: Ensure Exceptional Quality in our Academic Programs

Strategic & Business plans
Pillar: Our Students

Goal: To educate and inspire students to realize success in their careers and communities.

This aligns with Goal 1 of the Academic Plan: ensure exceptional quality in our academic programs, and the student pillar of the Strategic Plan and Business Plan: Educate and inspire students to realize success in their careers and communities. DC is prepared to support students and graduates by responding to the changing student populations' expectations, employer needs, professional practices and workplace technologies.

4.2 Fit with Existing Ontario College and University Programs

Education in HRM is delivered at various credential levels; each credential level targets a different student group. The proposed three-year degree at DC is an important step in addressing the current and projected labour market demand as it would more efficiently prepare graduates with all of the competencies necessary to fill HR roles that place a greater emphasis on integrating HR and business strategy.

Ontario Tech University offers an Honours Bachelor of Commerce, with the opportunity to add Organizational Development and Human Resources as a major. Compared to existing four-year degree programs, the curriculum of the proposed three-year degree will focus more on the development of overall HR expertise, business acumen and applied skills in change management, as opposed to the advanced knowledge of theory and research methodology needed to prepare students for graduate studies. The proposed program will provide individuals greater flexibility to support their career goals. Those who wish to enter the labour market and obtain a CHRL designation as quickly as possible will be able to do so by completing the three-year degree. Students who are interested in obtaining more advanced theoretical and methodological knowledge in the field will be well prepared to pathway into a four-year degree and become eligible for graduate programs.

Non-Degree Credentials

Diploma, advanced diploma and graduate certificate programs in HR are offered at a majority of CAAT institutions, including DC. Trent University offers a dual postgraduate certificate in Business and Communication and HRM that is open to individuals with an undergraduate degree from an accredited university. University of Guelph offers a diploma in HRM through the Open Learning and Educational Support (OpenEd) department, as does Western University through the continuing studies department. York University offers a part-time certificate in HRM, and a full-time post-degree certificate in HRM through the School of Continuing Studies.

5. Labour Demand and Graduate Employment Possibilities

The environmental scan demonstrates that the proposed Bachelor of Business Administration (Human Resources Management) would be a meaningful complement to the offerings at DC. The proposed program will provide a strong theoretical foundation and knowledge of specialized topics in business and human resources. Additionally, it will provide individuals with greater flexibility to achieve their career goals and expedite entry into the workforce as compared to existing four-year degree programs.

After a review of the need for the proposed program, DC determined it would be meaningful to add this degree to its postsecondary offerings because of the:

- Increased demand for HR practitioners with strong business acumen and change management skills.
- Expanded scope of HRM practice.
- Required deep theoretical knowledge of specialized topics in HR and business than existing diploma programs.
- Viable pathway to further education for graduates from human resources diploma programs.

5.1 Labour Market Analysis

HRM is the management of an organization's employees and culture through the strategic implementation of practices and policies.[2] HRM includes a wide range of critical functions within an organization, including knowledge management, recruitment, talent management, provision of employee services, payroll and benefits administration, employee relations and organization development.[3] Individuals who perform these HRM functions within an organization are often referred to as human resources professionals; however, some professional associations and occupation classification systems classify human resources professionals as a specific subgroup of individuals in HR roles.[4,5]

This discussion uses the term HR practitioner for all individuals in HRM roles. HR practitioners often fall into one of two broad categories, HR generalist or HR specialist. HR generalists are responsible for a wide range of HR functions within an organization, whereas HR specialists focus on a specific HR function such as talent management or occupational health and safety.

HRM was originally introduced in the 1980s as an alternative to personnel management. While personnel management involved many of the same tasks as HRM such as hiring, training and employee relations, HRM was intended to be a more holistic approach to people management grounded in the idea that employees are assets that add value as opposed to costs that need to be offset.[6] Scholars and practitioners have debated the extent to which HRM truly represents a unique approach to people management, with some arguing that it is simply a re-packaging of the same fundamental ideas; however, HRM is often thought to be about more than just service delivery, emphasizing the role of HR professionals as strategic business partners within an organization.[7]

Although HRM was intended to be a single unifying approach to people management, this has not materialized in practice. In fact, there are two opposing views on the HRM approach to people management. According to the hard approach, the main goal of HR is to optimize the use of an organization's resources, including its employees, to generate profit for key shareholders.[8] This approach puts little emphasis on utilizing HR policies and practices to aid in the

[2] Armstrong, Chapter 1 (2014)
[3] Rihan (1998)
[4] Human Resources Professionals Association (HRPA) Designations, https://www.hrpa.ca/designations/
[5] National Occupation Classification, https://noc.esdc.gc.ca/Structure/NocProfile
[6] Ahammad (2017)
[7] Collings et al. (2019)
[8] Forbrun et al. (1984)

development of individual employees or foster a positive work culture. By contrast, the soft HRM approach balances the need to apply HR policies and practices strategically with the need to foster employee well-being, autonomy and commitment in order to promote organizational success.[9] Instead of focusing solely on furthering the interests of key shareholders, the soft approach highlights the need to balance the interests of all relevant stakeholders, such as shareholders and management with employees, union members and the broader community.[10]

A soft HRM approach is typically more effective, and is associated with better employee performance and less turnover; however, there is still great variability in the approach taken to HRM between and within organizations.[11] As a result, the term 'human resources management' today is often used more generally to describe all of the functional and strategic tasks related to people management that are carried out by HR practitioners, as opposed to referring to a single approach to people management that is applied uniformly across organizations.[12]

Strategic Human Resources Management

The rise of globalization and technological advancement in the past couple of decades has shifted HRM further toward a strategic role in organizations.[13] Transactional tasks such as payroll and benefits administration are increasingly being outsourced and automated, leaving more time for transformational tasks such as talent management and employee development. Today, the effectiveness of an HR practitioner is often measured in terms of their ability to grow a business by effectively developing and utilizing the organization's resources, including the talent.[14] The scope of HR practice has evolved to require an understanding of business strategy and innovation, in addition to service delivery and people skills.

Modern approaches to HRM are often referred to as strategic HRM, as they blend traditional HRM functions with a strategic management approach.[15] Strategic management is an approach to business in which the organization has a clear, long-term vision and all key business decisions are made in service of achieving this goal.[16] In the context of strategic HRM, HR policies and practices are chosen intentionally based on what is most appropriate given the business's overall strategy and goals, a principle referred to as strategic fit.[17]

Strategic HRM has three main objectives; vertical alignment, change management and effective use of company resources.[18] Vertical alignment is most closely related to the notion of fit. Vertical alignment involves ensuring that

[9] Beer et al. (1984)
[10] Beer et al. (2015)
[11] Johnson & Szamosi (2019)
[12] Armstrong, Chapter 1 (2014)
[13] Obedgiu (2016)
[14] Heathfield (2021) https://www.thebalancemoney.com/what-is-human-resource-management-1918143
[15] Armstrong, Chapter 2 (2014)
[16] Pindur et al. (1995)
[17] Delery & Doty (1996)
[18] Armstrong, Chapter 2 (2014)

the content and implementation of HR strategies are aligned with the long-term goals and strategy of a business.[19] This requires a clear understanding of the organization's long-term objectives and the overarching strategy for achieving them. Change management refers to the ability of HR practitioners to effectively adapt to changes in the work environment and provide guidance on how the needs of employees and goals of the business can continue to be met, despite these changes.[20] Finally, as contributors to business strategy, it is the role of HR departments to identify ways in which an organization can capitalize on the talent of its employees in order to gain a competitive advantage.

The exact responsibilities of HR practitioners vary broadly, depending on the size of the organization, the level of their work and the scope of their role.[21] Within smaller organizations, a single HR practitioner may be responsible for carrying out all HR functions; whereas, in larger organizations, the responsibilities may be split between multiple individuals. Additionally, HR professionals in entry-level positions, are likely to be predominantly focused on service delivery and administration, whereas, those in mid-level or senior HR roles are likely to have a more strategic function. In the most senior HR roles, practitioners often act as strategic business partners within the organization. They are involved in the development of overall business objectives and strategy, create HR initiatives that align with those objectives and strategy, and oversee the implementation of these initiatives.[22]

Professional Designation

Although a professional designation is not mandatory for human resources practitioners in Canada, most jobs consider it an asset and is likely to be required for mid and senior level positions.[23] While many different accrediting and licensing bodies exist, the most widely recognized in Ontario is the Human Resources Professionals Association (HRPA). HRPA offers three-levels of professional designation for human resources practitioners.[24]

The first level designation, Certified Human Resources Professional (CHRP) provides accreditation for human resources practitioners with demonstrated HR expertise, and the ability to carry out the various functional and administrative tasks associated with HRM. Individuals with the CHRP designation are often a part of a broader HR team in large organizations or the sole HR practitioner in a smaller organization, and typically hold more entry-level roles focused on supporting initiatives developed by management. To obtain this designation, HR practitioners must have completed courses in nine key subject areas (discussed further below) and complete the CHRP knowledge exam, CHRP employment law

[19] Paauwe & Boon (2019)
[20] Armstrong, Chapter 2 (2014)
[21] Armstrong, Chapter 3 (2014)
[22] Birt (2020) https://www.indeed.com/career-advice/finding-a-job/hierarchy-of-hr-job-titles
[23] National Occupation Classification, https://noc.esdc.gc.ca/Structure/NocProfile
[24] HRPA Designations, https://www.hrpa.ca/designations/

exam and the HRPA job ready program which provides training on professionalism and ethics in the workplace.[25]

The second level designation, Certified Human Resources Leader (CHRL) recognizes the growing emphasis being placed on strategic HRM and provides accreditation for human resources practitioners who have a demonstrated ability to function at a strategic level within an organization. Individuals with the CHRL designation are typically responsible for overseeing the implementation of strategic HR policies, practices and programs, as well as managing teams of HR staff. To obtain this designation, individuals must possess a degree from a recognized college or university, complete courses in the same nine core subject areas as the CHRP designation, complete the CHRL knowledge exam and CHRL law exam, and have three years of demonstrated HR experience. Although the required HR knowledge courses are the same for both the CHRP and CHRL designations, the knowledge exam for the second-level designation is designed to assess more advanced competencies in skills such as decision making, critical and strategic thinking, and general business acumen required for success in more strategic HRM positions.[26]

The third level designation, Certified Human Resources Executive (CHRE) provides accreditation to HR practitioners with extensive expertise and experience. Individuals with the CHRE designation are typically in the most senior HR positions within an organization and are responsible for directly working with business executives to align business and HR strategy. Obtaining a CHRE designation requires a written application demonstrating executive-level HR competency and experience which is reviewed by a panel of practitioners who also hold the CHRE designation.[27] The CHRE designation will not be discussed further as it requires extensive experience and is beyond the scope of the proposed degree.

Key Competencies of HR Practitioners

Many different models have been created by researchers and HR professional associations to highlight the competencies necessary to be a successful HR practitioner. In a review of seven competency models (three academic and four from HR professional associations- including the HRPA competency framework), Beatty (2019) identified three universally recognized competencies that make a successful HR practitioner: HR expertise, business acumen and change management.

HRPA Competency Framework

The HRPA competency framework splits the required competencies of HR practitioners into two broad categories, functional competencies and enabling competencies.[28] Functional competencies are the skills necessary to perform

[25] HRPA CHRP Designation, https://www.hrpa.ca/designations/chrp
[26] HRPA CHRL Designation, https://www.hrpa.ca/designations/
[27] HRPA CHRE Designation, https://www.hrpa.ca/designations/chre
[28] HRPA Competency Framework (2019)

specific tasks required in HRM roles, whereas, enabling competencies comprise more general skills, which underly the functional competencies. The HRPA framework outlines nine functional competency categories: strategy, professional practice, organizational effectiveness, workforce planning and talent management, labour and employee relations, total rewards, learning and development, health, wellness, and safe workplace, and HR metrics, reporting and financial management. The HRPA framework also details eleven enabling competencies: critical thinking and analysis, technological savvy, research skills, quantitative skills, critical legal thinking, emotional intelligence, project management, decision-making skills, business acumen, independence, ethical behaviour and professionalism, relationship management, negotiation and influencing, strategic and organizational leadership, and integration.

HR Expertise

HR expertise in the HRPA framework is represented by the functional competencies of total rewards, learning and development, health, wellness and safe workplace, workforce planning and talent management, labour and employee relations and professional practice. HR expertise is supported by the enabling competencies of negotiating and influencing, relationship management, emotional intelligence (understanding the impact of individuals' emotions on their behaviour), independence (the ability to separate self from the organization) and ethical behaviours and professionalism.[29] Developing HR expertise is the focus of the nine core content courses that HR practitioners must complete to be eligible for their CHRP and CHRL designations.[30] Although the general areas of HR expertise are the same for both the CHRP and CHRL designations, individuals applying for a CHRL designation are expected to have a more in-depth knowledge of the areas. For example, one of the competencies within the total rewards category is "create equitable and effective rewards structures which include compensation, pensions, benefits, and prerequisites." For those with a CHRP designation, this means being able to assist supervisors in collecting information to support development of the reward structure and documenting the rewards structure. For those with a CHRL designation, this means being able to create a reward structure that can attract talent and maximize value for employees, while minimizing cost for the employer.[31]

Change Management

Change management is represented by the functional competency of organizational effectiveness, which includes a cluster of competencies related specifically to change management. Change management is supported by the enabling competencies of decision-making skills, critical thinking and analysis, critical legal thinking, business acumen, research skills and quantitative skills.[32] Similar to HR expertise, competency in change management is important for both the CHRP and CHRL designations, but the CHRL designation requires a

[29] Beatty (2019)
[30] HRPA Course work Requirements, https://www.hrpa.ca/designations/coursework-requirement/
[31] HRPA Competency Framework (2019)
[32] Beatty (2019)

higher degree of skill in this area. For example, one of the competencies under change management is "contribute to the development of an organizational change management strategy." For those with a CHRP designation, this means being able to compile data to support predictions about beneficial changes. For those with a CHRL designation, this means being able to compile data to support predictions about beneficial changes, as well as form persuasive arguments to support the desired course of action, participate actively in planning sessions and work with other leaders, towards the goal of improving the organization.[33]

Business Acumen

Business acumen is the ability to understand an organization's mission, values and goals, and collaborate with business leaders to develop strategies and implement HR policies and practices that will help the organization reach its vision and goals.[34] Business acumen requires an understanding of all aspects of business function and strategy, and the ability to integrate HR specific strategies with general business strategies. For those with a CHRP designation, this means being able to assist supervisors in researching information and documenting strategies. For those with a CHRL designation, this means being able to strategize on how to capitalize on change and analyze external and internal factors in the documentation of HR strategies.[35]

Industry Trends

National Trends,

The COVID-19 pandemic, paired with rapid technological advancement in remote work capabilities, has created a massive shift in current and prospective employees' perceptions of the desirability of different working arrangements. The pandemic response necessitated emergency work from home measures in 2020 and 2021. This highlighted the feasibility of working from home in many occupations, and many employees continue to prefer more flexible work arrangements.[36] Increasing value is also being placed on positive employee experience and work-life balance.

There has been a steep increase in resignations due to individuals' desire to find careers with higher wages, greater flexibility, better benefits and a more favourable work-life balance, consequently, making employee retention more challenging.[37] The rise of resignations in recent years has led to a substantial increase in the number of available job opportunities in Canada. In the first quarter of 2016, there were approximately 81 newly hired employees for every 100 vacancies, but in the first quarter of 2022, this number dropped to roughly 34 for every 100, with around 957,500 total open job postings nationally.[38] Many individuals who delayed retirement due to the pandemic are also expected to

[33] HRPA Competency Framework (2019)
[34] Beatty (2019)
[35] HRPA Competency Framework (2019)
[36] McLean & Company, HR Trends Report (2022)
[37] Is the great resignation over? https://www.hrpa.ca/hr-insights/is-the-great-resignation-over
[38] Statistics Canada, Job Vacancies First Quarter (2022)

retire in the coming years, which will further exacerbate the demand for skilled workers.

Although demand for skilled workers is increasing, the number of individuals searching for jobs is decreasing. Unemployment rose steeply in 2020 because of the pandemic, but there was a substantial decrease in unemployment in 2021. The growing demand for skilled workers, along with the decrease in the number of skilled workers seeking employment, has shifted the focus of organizations toward employee experience as they seek to retain current employees and attract prospective ones in an increasingly competitive job market. In order to continue to be successful in the new world of work, organizations will need to have strong HR departments that can help navigate change, and identify the best path forward. HR practitioners will need to develop and implement creative policies and practices centered on employee experience and company culture, in order to promote retention among existing employees and attract new ones, particularly in organizations where remote work is not an option.[39] This means that business acumen, strategic thinking and change management will be increasingly important for HR practitioners going forward.[40]

The scope of HR practice is also expanding in other ways. Organizations are facing unprecedented pressure to meaningfully respond to ongoing social issues, such as climate change and discrimination. A recent report found that 83 per cent of HR practitioners indicated that either equity, diversity and inclusion (EDI), corporate social responsibility (CSR) or environmental social governance (ESG) had been added to their role in 2022.[41] Despite acknowledging the need to act in these areas, few organizations currently have long-term strategies in place. HR practitioners with the knowledge and skills necessary to help organizations develop strong long-term strategies surrounding EDI, CSR and ESG will be in high demand going forward.

Finally, technological advancement has led to the automation of several tasks such as payroll and benefits administration that were typically completed by HR practitioners. However, this automation does not appear to have led to a reduction in demand for HR practitioners. Instead, it has created a shift in the types of work the HR practitioners complete. As the time spent on transactional service delivery decreases, HR practitioners can devote more time to talent management and employee development, thereby taking on a more strategic role within organizations.[42]

Provincial Trends

Overall, similar trends exist at the provincial level. Changes to the world of work as the result of the COVID-19 pandemic and recent social movements have increased the need for highly skilled HR practitioners who are able to strategically implement policies and practices to attract and retain staff.[43]

[39] Leading HR Job Trends to Watch in 2022, https://www.randstad.ca/employers/workplace-insights
[40] McLean & Company, HR Trends Report (2022)
[41] McLean & Company, HR Trends Report (2022)
[42] Obedgiu (2016)
[43] Government on Canada Job Bank, https://www.jobbank.gc.ca/marketreport/outlook

Furthermore, strong skills in change management will be essential as HR practitioners provide guidance to organizations on how to navigate new challenges. The scope of HR practice is also expected to expand at the provincial level, with greater opportunities for HR practitioners to meaningfully support EDI and corporate social responsibility initiatives. The number of available HR positions is also expected to increase at the provincial level. Between 2020 and 2021, there was a substantial increase in the number of entry, mid-, and senior level HR positions posted, which is expected to continue into 2025.[44] Roughly half of these projected job openings are expected to be from retirements, with more openings being expected for senior level positions.

Regulatory Bodies, Other Associations and Affiliations

- Human Resources Professionals Association (HRPA)
- Chartered Professionals in Human Resources Canada (CPHR; formerly Canadian Council of Human Resources Associations)
- International Personnel Management Association (IPMA) Canada
- The Society of Human Resources Management (SHRM)

National Occupational Classification: Analysis

The following discussion presents three occupations relevant to the field of human resources management. The National Occupational Classification (NOC) provides a standardized framework for organizing the labour force in a coherent system. Statistics Canada has updated the NOC classifications in 2021 to provide a finer and more updated reflection of the labour market using five digits as opposed four digits for the NOC codes and corresponding it to the updated six-category training, education, experience and responsibilities (TEER) system.

Despite this update, many sources of labour market information have not yet transformed their database from the 2016 NOC structure to the 2021 NOC structure. Hence the following description identifies the relevant 2016 and 2021 equivalencies, but the discussion relies on the 2016 framework.

The following three NOC codes have been identified as relevant for employment in this area and are presented below both with the 2016 NOC number and title as well as the equivalent 2021 NOC number(s) and title(s).

- 1121 (2016) – Human resources professionals equivalent to 11200 (2021) – Human resources professionals (e.g., human resource generalist, human resources consultant, staff training and development officer);
- 1223 (2016) – Human resources and recruitment officers equivalent to 12101 (2021) – Human resources and recruitment officers (e.g., human resources office, recruitment specialist, personnel officer);

[44] MCU Ontario Job Profiles, https://www.services.labour.gov.on.ca/labourmarket

- 0112 (2016) – Human resources managers equivalent to 10011 (2021) – Human resources managers (e.g., occupational health and safety manager, employee relations manager, human resources manager).

Labour Market Outlook

Occupational Classification: National

The table below displays wages, occupation statistics and employment outlook for occupations relevant to human resources management in Canada.

Wages, Occupational Statistics and Employment Outlook (National)					
2016 NOC Code - Occupation	**Median Wage[45]**	**Employment in 2018**	**Median Age in 2018**	**Average Retirement Age in 2018**	**Outlook to 2028**
1121 – Human Resources Professionals	$36.22	106,800	42	64	Balance
1223 – Human Resources and Recruitment Officers	$28.85	34,000	38	61	Balance
0112 – Human Resources Managers	$50.96	31,200	45	60	Balance

Source: Employment and Social Development Canada https://occupations.esdc.gc.ca/sppc-cops; Government of Canada Job Profiles www.jobbank.gc.ca/marketreport/outlook, accessed November 2022

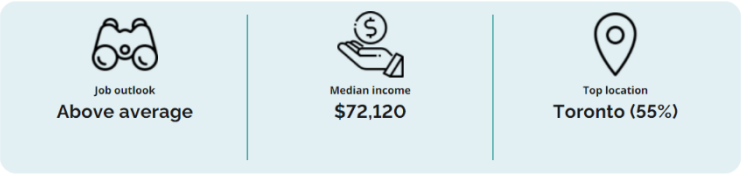
The number of job openings and job seekers are expected to be balanced for all relevant occupations through to 2028. In addition, the median wage is high for Human Resources Professionals and Human Resources Managers. The median wage for the more entry-level occupation category of Human Resources and Recruitment Officers is only slightly above the national average.

Provincial Outlook

Occupational Classification: Provincial

The figure below displays the provincial job outlook rating (2021-2025) and median income.

1121 – Human Resources Professionals



[45] Average Wages - All occupations at National level = $27.88 (October 2022, Labour Force Survey)

1223 – Human Resources and Recruitment Officers

0112 – Human Resources Managers

Source: MCU Ontario Job Profiles, accessed November 2022, https://www.services.labour.gov.on.ca/labourmarket

The outlook for relevant occupations is most favourable for Human Resources Professionals. The top area of employment for all three occupations is Toronto. The median income for Human Resources Professionals and Human Resources Managers are substantially higher than the Ontario average of $55,121. The median income for Human Resources and Recruitment Officers is only slightly above this average.

Additional labour market information is also available through the Government of Ontario Job Profiles for select NOC codes. The table below presents summary job profile statistics provided by the Government of Ontario for all included NOCs that relate to the proposed Bachelor of Business Administration (Human Resources Management).

Provincial Summary Job Profile Statistics					
2016 NOC Code - Occupation	**Males[46]**	**Females**	**Full-Time**	**Part-Time[47]**	**Self-Employed[48]**
1121 – Human Resources Professionals	26%	74%	77%	23%	6%
1223 – Human Resources and Recruitment Officers	31%	69%	71%	29%	8%
0112 – Human Resources Managers	29%	71%	83%	17%	0%

Source: MCU Ontario Job Profiles, accessed November 2022, https://www.services.labour.gov.on.ca/labourmarket

As indicated in the table above, the proportion of full-time employment is high for all three occupations. All three occupations have a greater proportion of

[46] Average Male to Female Ratio – All occupations in Ontario = 53%/47% based on Working in Canada (2021, Labour Force Survey)
[47] Average Part-Time work – All occupations in Ontario = 17% (2021, Labour Force Survey)
[48] Average Self-Employment – All occupations = 15% based on Working in Canada (2018, Labour Force Survey)

females than males, and relatively high rate of full-time employment. Full-time employment is highest among Human Resources Managers. Self-employment is relatively low in all three cases, with no self-employment reflected for Human Resources Managers.

The table below displays the education level of employees in relevant occupations in Ontario.

Educational Attainment			
Education Level	**1121 – Human Resources Professionals**	**1223 – Human Resources and Recruitment Officers**	**0112 – Human Resources Managers**
No certificate, diploma or degree:	1%	3%	1%
Secondary (high) school diploma or equivalency certificate	12%	16%	12%
Apprenticeship or trades certificate or diploma	2%	1%	2%
College, CEGEP or other non-university certificate or diploma	21%	23%	24%
Bachelor's degree	44%	43%	41%
Degree in medicine, dentistry, veterinary medicine or optometry	0%	0%	0%
Master's degree	11%	8%	12%
Earned doctorate	1%	0%	0%
Other	7%	6%	7%

Source: MCU Ontario Job Profiles www.services.labour.gov.on.ca/labourmarket, accessed November 2022

A Bachelor's degree is the most common credential among employees in all three occupation types, with a college diploma being the second most frequent credential.

The table below presents provincial employment opportunities for each relevant occupation. Within each column, the per centages indicate the distribution of all individuals employed in the corresponding occupation across the select census divisions.

Employment Share by Census Division				
Census Division	**All Occupations**	**1121 – Human Resources Professionals**	**1223 – Human Resources and Recruitment Officers**	**0112 – Human Resources Managers**
Durham	5%	6%	5%	5%
Toronto	21%	24%	21%	21%

Employment Share by Census Division				
Census Division	All Occupations	1121 – Human Resources Professionals	1223 – Human Resources and Recruitment Officers	0112 – Human Resources Managers
Peel	10%	11%	10%	10%
York	9%	8%	9%	9%
Peterborough	1%	1%	1%	1%
Northumberland	1%	0%	0%	0%
Kawartha Lakes	1%	0%	0%	0%

Source: MCU Ontario Job Profiles, accessed November 2022, www.services.labour.gov.on.ca/labourmarket

Toronto has the greatest share of total employment for all occupations. Each of the three occupations are highly concentrated in Toronto and the surrounding municipalities, which indicates a significant number of individuals working in these occupations in the GTA.

The figure below displays the sectors in which the relevant occupations are employed.

1121 – Human Resources Professionals		1223 – Human Resources and Recruitment Officers	
22%	Public administration	**43%**	Administrative and support, waste management, and remediation services
17%	Professional, scientific, and technical services	**12%**	Professional, scientific, and technical services
16%	Finance and insurance	**11%**	Public administration
27%	All other industries	**18%**	All other industries

0112 – Human Resources Managers	
16%	Professional, scientific, and technical services
13%	Finance and insurance
9%	Administrative and support, waste management, and remediation services

0112 – Human Resources Managers

40% All other industries

Source: MTCU Ontario Job Profiles, accessed November 2022, https://www.services.labour.gov.on.ca/labourmarket

Occupations relevant to the proposed Bachelor of Business Administration (Human Resources Management) program are spread across a wide range of industries but some of the most common are Administrative and Support, Waste Management and Remediation Services, Public Administration, Professional, Scientific, and Technical Services, and Finance and Insurance.

The table below presents an occupation summary for Ontario and select census divisions for 1121 – Human Resources Professionals, 1223 – Human Resources and Recruitment Officers and 0112 – Human Resources Managers. The occupation summary includes the number of jobs available in 2020, as well as the projected number of jobs in 2025.

Occupation Summary (Ontario and Select Census Divisions) – 2020 & 2025					
Region	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**	**Median Hourly Wages**
Ontario	**70,238**	**86,288**	**16,050**	**23%**	**$37.30**
Durham	2,019	2,618	599	30%	$37.57
Toronto	21,548	27,599	6,051	28%	$36.99
Peel	8,843	11,408	2,565	29%	$36.90
York	5,381	7,100	1,719	32%	$37.46
Peterborough	342	340	-2	-1%	$34.41
Northumberland	166	167	1	1%	$33.73
Kawartha Lakes	132	130	-2	-2%	$34.46

Source: Labour Force Survey, Lightcast Analyst 2022.1, accessed: November 2022

The information above demonstrates that there are many jobs likely to be created by 2025 in these three occupations combined, specifically in the Toronto, Peel, York and Durham census divisions. Durham Region is projected to gain 599 jobs over the period, bringing the total number of available jobs in these occupations to 2,618 by 2025. Additionally, these jobs are compensated at rates similar to, and even slightly higher than, urban centres like Toronto, which are typically higher paying. It should also be noted that the per centage change signifying growth is highest in Durham, York, Peel and Toronto, indicating positive labour market outcomes for job seekers in these areas.

The table below presents self-employment information for the selected NOC codes related to the proposed Bachelor of Business Administration (Human Resources Management).

Self-Employment (Ontario and Select Census Divisions) – 2020			
Region	**1121 – Human Resources Professionals**	**1223 – Human Resources and Recruitment Officers**	**0112 – Human Resources Managers**
Ontario	**2,789**	**466**	**0**
Durham	93	13	0
Toronto	822	107	0
Peel	242	48	0
York	294	44	0
Peterborough	16	11	0
Northumberland	15	13	0
Kawartha Lakes	<10	<10	0

Source: Labour Force Survey, Lightcast Analyst 2022.1, accessed: November 2022

Local Outlook

Occupational Classifications: Region of Durham

The table below presents the number of jobs and hourly wages for all relevant occupations within the Durham census division.

Durham Region Employment Outlook - 2020 & 2025					
2016 NOC	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**	**Median Hourly Wages**
1121 – Human Resources Professionals	1,242	1,629	387	31%	$35.78
1223 – Human Resources and Recruitment Officers	368	473	105	29%	$28.72
0112 – Human Resources Managers	409	516	107	26%	$51.18
Total	**2,019**	**2,618**	**599**	**30%**	**$37.57**

Source: Labour Force Survey, Lightcast Analyst 2022.1, accessed: November 2022

The table above indicates the greatest number of jobs expected in the Durham census division will be in the occupations categorized as Human Resources Professionals.

Industry Summary

The North American Industry Classification System (NAICS) provides a standardized framework for classifying industries present in any given geographic region. HR occupations are spread across a wide range of industries. Common industries include: NAICS 5416 - Management, scientific, and technical consulting services, NAICS 5411- Legal services, NAICS 5611 – Office and administrative services and NAICS 6241 – Individual and family services.

The table below presents the number of employers in each industry by census divisions located close to Durham Region.

Number of Employers in Related Industries Based on Census Division							
NAICS Code – Occupation	Durham	Toronto	York	Peel	Northumberland	Peterborough	Kawartha Lakes
5416 - Management, scientific, and technical consulting services	387	3,236	1,527	1,240	52	72	105
5411- Legal Services	186	3,242	782	714	36	59	82
5611 – Office and administrative services	53	525	257	168	5	4	4
6241 – Individual and Family Services	81	452	111	106	19	38	49
Total	**707**	**7,455**	**2,677**	**2,228**	**112**	**173**	**240**

Source: Canadian Business Patterns, Lightcast Analyst 2022.1, accessed: November 2022

The table above indicates that when combining Durham, Peel, York and Toronto there are a significant number of employers in the GTA in relevant industries.

Graduate Outcomes

The table below presents 2017-18 graduate outcomes for graduates of MTCU 80223, Bachelor of Applied Business- Human Resources Strategy and Technology at CAAT institutions. Results are based on the Key Performance Indicator (KPI) Graduate Satisfaction Survey for 2017-2018 graduates conducted six months after graduation.

Summary of 2017-18 Graduates Bachelor of Applied Business- Human Resources Strategy and Technology MTCU 80223		
Outcome	**MTCU 80223**	**All Programs**
Total Graduates	81	100,313
% of Graduates in Survey	55.56%	51.81%
Graduate Satisfaction	84.62%	78.04%
Labour Force Participation[49]	N/A	71.07%
Employment Rate	83.72%	86.15%
Employed Full-Time	81.26%	70.71%
Average Annual Income (Full-Time)	$40,000	$35,000
Employed Full-Time (Related/ Partially Related)	71.41%	51.82%
Average Annual Income (Related Employment)	$40,000	$37,000
Unemployment Rate	16.28%	13.85%

The table below displays the top five occupations for graduates of MTCU 80223, Bachelor of Applied Business- Human Resources Strategy and Technology at CAAT institutions. The majority of graduates find work as either human resources and recruitment officers or human resources professionals.

Top Five Occupations Bachelor of Applied Business- Human Resources Strategy and Technology MTCU 80223	
Occupation	**%**
Human Resources and Recruitment Officers (1223)	27%
Human Resources Professionals (1121)	27%
Human Resources Managers (0112)	6%
Administrative Assistants (1241)	5%
Payroll Administrators (1432)	5%

6. Student Interest

Current Student Interest at Durham College

There is a large pool of graduates from programs at DC who may choose to continue their education with the three-year Bachelor of Business Administration (Human Resources Management) degree program. Both student and graduate levels of interest in the proposed program were further explored through surveys.

[49] Graduates who were either employed or looking for work during the reference week.

A total of 99 students across six programs completed a survey assessing their level of interest in the proposed three-year Bachelor of Business Administration (Human Resources Management) program. Of the 99 respondents, 91 per cent are enrolled in the highly related Human Resources – Business Ontario College Diploma (includes regular and Ontario Tech transfer streams) or Human Resources - Business Administration Ontario College Advanced Diploma (includes regular and co-op streams) programs at DC.

The majority of students (98 per cent) indicated that they believe offering a three-year Bachelor of Business Administration (Human Resources Management) program is a good idea. Further, all respondents from the highly related Human Resources – Business diploma program and 97 per cent of respondents from the highly related Human Resources – Business Administration advanced diploma program believe that offering a three-year Bachelor of Business Administration (Human Resources Management) degree program is a good idea. Student comments further affirmed this understanding.

It's an amazing opportunity for students to gain a degree while studying in the environment of a college. They get to learn in more in-depth classes while getting a degree in on year less than the average university program."

Approximately 67 per cent of students expressed interest in enrolling in the proposed Bachelor of Business Administration (Human Resources Management) program. Interest in potential enrolment was highest among students in the Human Resources – Business diploma program (75 per cent) followed by the Human Resources – Business Administration advanced diploma program (66 per cent). Overall, student interest in enrolling in the program increased substantially if they were likely to be granted credit for previous courses completed. Eighty-nine per cent of the students surveyed indicated that they would be more likely to enrol in the Bachelor of Business Administration (Human Resources Management) degree program if they were granted credit transfer. Students were also asked when they would be most likely to enrol in the proposed degree program, and the majority (71 per cent) indicated they would likely enrol immediately following graduation from their current program.

"If this was offered, I would have certainly applied to it since a degree is considered higher education than a diploma. Higher earning potential for graduates, a faster option for securing a degree, better preparation for the CHRL exam. If it was paired with co-op of field placement it would be a great success for students and the college."

Among the students surveyed, a majority (93 per cent) believe that a Bachelor of Business Administration (Human Resources Management) degree program would make a difference in the number of potential employment opportunities available. This trend was particularly prevalent among students enrolled in the Human Resources – Business diploma program (96 per cent) and Human Resources – Business Administration advanced diploma program (92 per cent). Further, 85 per cent of students believe that the proposed Bachelor of Business Administration (Human Resources Management) degree will make a difference in the type of jobs available to graduates, and 82 per cent believe it will make a difference in starting salary.

"I am currently enrolled in the 3rd semester of the 2-year HR diploma program at Durham – I will be graduating in April 2023 and moving to Trent University into the 3rd year BBA program because this is the most economical and timely option that is available currently. If Durham were to have an HR degree program, I would have surely stayed!"

Alumni Interest

DC conducted a survey to understand whether there was support among the graduates of related programs in pursuing the proposed three-year Bachelor of Business Administration (Human Resources Management) degree. In total, there were 61 responses to the survey from graduates of six related programs. The majority of respondents (97 per cent) were graduates from the highly related Human Resources – Business diploma (includes regular and Ontario Tech transfer streams) or Human Resources - Business Administration advanced diploma (includes regular and co-op streams) programs at DC.

In total, 59 per cent of the alumni surveyed expressed interest in pursuing a Bachelor of Business Administration (Human Resources Management) degree. The alumni most interested in pursuing the proposed degree program were graduates of the Human Resources – Business diploma program (63 per cent) followed by the Human Resources – Business Administration advanced diploma program (57 per cent). The availability of credit transfer greatly increased alumni's likelihood to enrol in the proposed Bachelor of Business Administration (Human Resources Management) degree. Seventy-six per cent of graduates from the Human Resources – Business diploma program and 90 per cent of graduates from the Human Resources – Business Administration advanced diploma program indicated that they would be likely to enrol if given credit for previous courses completed.

"As a student of both university and college programs, I always found college provided me with a more personal hands-on learning approach. Had this program been available through Durham College when I attended, it would have been my program of choice. Offering courses that meet CHRL requirements is huge!"

Alumni were also asked whether they think that offering a three-year Bachelor of Business Administration (Human Resources Management) degree program would be a good idea. The majority of alumni (90 per cent) indicated that they believed offering the degree would be a good idea. Eight-nine per cent of graduates of the Human Resources – Business diploma program and 90 per cent of graduates of the Human Resources – Business Administration advanced diploma program believe offering the degree program would be a good idea.

"Young people are looking for credentials providing quicker entry into the workforce that also enable a practical application of theoretical foundations."

7. Analysis of Competition

HR credentials exist at all levels including certificates, diplomas, advanced diplomas and degrees. Diploma, advanced diploma and graduate certificate programs are currently offered at the majority of CAAT institutions across Ontario, including DC. Certificates in HR are also offered through the professional, part-time and/or continuing education centres of many Ontario universities. Honours baccalaureate degrees in HR management are currently offered at six CAAT institutions and many Ontario universities. Several Ontario universities also offer master's and doctoral degree programs in HRM. Completion of a four-year bachelor's degree is typically required for entrance into a master's or doctoral program.

Each of the credentials offered in HRM provides learning to different target student groups. The proposed three-year degree in human resources management will prepare graduates for a career in HRM. The proposed three-year degree will fill a gap in the current credential offerings between advanced diplomas and four-year honours bachelor's degrees. Graduates of the proposed three-year HRM degree program will benefit from the focus on practical application of skills present in advanced diploma programs as well as the greater breadth and depth of knowledge provided by baccalaureate level education.

Finally, Beatty (2019) indicates that existing education offerings fall short in providing individuals with the business acumen necessary to move from CHRP to CHRL. Many existing degree programs are not marketed as preparing individuals for the CHRL designation, and as a result, may provide less opportunity to develop business acumen. Additionally, the existing degree programs which do prepare graduates for the CHRL designation often have a definition of business acumen which focuses heavily on commerce, finance, and economics. The proposed three-year degree will take a more holistic approach to business acumen, preparing graduates to apply their skills across a wider range of business functions.

8. Target Market

The target market for this degree program is direct entry from secondary

education. Further this program may be of interest to students with diplomas/advanced diplomas from:

- Human Resources – Business/Business Administration,
- Accounting – Business/Business Administration,
- Supply Chain and Operations – Business/Business Administration and
- Marketing – Business/Business Administration.

9. Operating Revenue and Expenses

The following tables summarize the net contribution for the proposed Bachelor of Business Administration (Human Resources Management) program.

Student Enrolment	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Projected enrolment (Semester 1 Intake, Year 1)	25	25	30	30	35	35	40	40	45
Projected enrolment (Semester 1 Intake, Year 2)	-	21	21	26	26	30	30	34	34
Projected enrolment (Semester 1 Intake, Year 3)	-	-	25	25	29	29	33	33	37
Total Enrolment	**25**	**46**	**76**	**81**	**90**	**94**	**103**	**107**	**116**

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	228,816	296,579	398,027	489,808	504,499	519,645	540,259	556,611	578,474
Total Revenue for Program	$227,620	$423,642	$704,358	$748,039	$836,938	$881,938	$972,728	$1,019,081	$1,111,807
Net Surplus (Deficit) for Year - $	**($1,196)**	**$127,062**	**$306,330**	**$258,231**	**$332,439**	**$362,293**	**$432,469**	**$462,471**	**$533,333**
Accumulated Surplus / (Deficit)	($1,196)	$125,866	$432,197	$690,427	$1,022,867	$1,385,160	$1,817,629	$2,280,100	$2,813,433

New Program Summary

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Net Surplus (Deficit) for Year - %	**-1%**	**30%**	**43%**	**35%**	**40%**	**41%**	**44%**	**45%**	**48%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Revenue	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Funding Unit Generated (estimated weight – 0.871)	21.8	40.3	66.6	70.3	78.2	81.9	89.7	93.5	101.3
Grant Value per Funding Unit	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149
Tuition Fee for 2 Semesters ($6100) – Net of TSA	$5,490	$5,545	$5,600	$5,656	$5,713	$5,770	$5,828	$5,886	$5,945
Grant Revenue	$90,370	$167,185	$276,308	$291,670	$324,339	$339,702	$372,371	$387,734	$420,403
Tuition Revenue	137,250	256,456	428,050	456,369	512,599	542,236	600,357	631,347	691,404
Incidental Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Revenue	**$227,620**	**$423,642**	**$704,358**	**$748,039**	**$836,938**	**$881,938**	**$972,728**	**$1,019,081**	**$1,111,807**

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Co-ordinator premium	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225
FT Faculty*	96,537	99,433	102,416	210,976	217,306	223,825	230,539	237,456	244,579

New Program Summary

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
PT Faculty	22,296	75,807	128,605	85,155	87,709	90,340	93,051	95,842	98,717
Faculty Clerical Support	21,261	21,899	45,112	46,466	47,860	49,296	50,774	52,298	53,867
Classroom Support technicians	0	0	0	0	0	0	0	0	0
Commons'/Library Support Technicians	18,868	19,434	20,017	20,618	21,237	21,874	22,530	23,206	23,902
Total Academic Salaries	**165,187**	**222,798**	**302,374**	**369,440**	**380,337**	**391,560**	**403,119**	**415,027**	**427,291**
Employee Benefits FT Faculty	26,204	26,943	27,703	55,386	57,000	58,663	60,375	62,139	63,955
Employee Benefits FT Support	12,039	12,400	19,539	20,125	20,729	21,351	21,991	22,651	23,331
Employee Benefits PT	3,456	11,750	19,934	13,199	13,595	14,003	14,423	14,856	15,301
Professional Development	1,931	1,989	2,048	4,220	4,346	4,476	4,611	4,749	4,892
Instructional Costs – Operating	10,000	10,500	16,025	16,826	17,668	18,551	24,478	25,702	31,988
Instructional Costs – Library	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717
Total Academic Expense	**228,816**	**296,579**	**398,027**	**489,808**	**504,499**	**519,645**	**540,259**	**556,611**	**578,474**
Total Expense	**$228,816**	**$296,579**	**$398,027**	**$489,808**	**$504,499**	**$519,645**	**$540,259**	**$556,611**	**$578,474**

* To include Faculty for Placement.

New Program Summary

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	228,816	296,579	398,027	489,808	504,499	519,645	540,259	556,611	578,474
Total Revenue for Program	$227,620	$426,176	$712,903	$761,758	$857,535	$909,323	$1,009,260	$1,064,162	$1,168,492
Net Surplus (Deficit) for Year - $	**($1,196)**	**$129,597**	**$314,876**	**$271,950**	**$353,036**	**$389,678**	**$469,001**	**$507,551**	**$590,019**
Accumulated Surplus / (Deficit)	($1,196)	$128,401	$443,277	$715,227	$1,068,263	$1,457,941	$1,926,941	$2,434,493	$3,024,511
Net Surplus (Deficit) for Year - %	**-1%**	**30%**	**44%**	**36%**	**41%**	**43%**	**46%**	**48%**	**50%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Public Report

Report Number: BOG-2023-66

To: Board of Governors

From: Dr. Elaine Popp, Executive Vice President, Academic

Date of Report: May 26, 2023

Date of Meeting: June 7, 2023

Subject: New Program of Instruction – Bachelor of Crime and Intelligence Analysis and Honours Bachelor of Crime and Intelligence Analysis

1. Purpose

To seek approval from the Board of Governors for the following post-secondary programs of instruction for Fall 2025 intake:

Bachelor of Crime and Intelligence Analysis

- Credential: Bachelor Degree
- Duration: 3 years
- Faculty: Social Community Services (SCS)

Honours Bachelor of Crime and Intelligence Analysis

- Credential: Honours Bachelor Degree
- Duration: 4 years
- Faculty: Social Community Services (SCS)

2. Recommendation

It is recommended to the Durham College Board of Governors:

That in accordance with Report BOG-2023-66 the proposed programs of Instruction listed below be approved:

- Bachelor of Crime and Intelligence Analysis
- Honours Bachelor of Crime and Intelligence Analysis

3. Background

Intelligence analysis work is varied and complex across both the public and private sectors, and is impacted by several factors including legislation, geography, and technology[1]. A significant amount of this work is constrained by

[1] UNODC Criminal Intelligence Manual for Analysts (2011)

legislation such as regulations around privacy, information sharing, lawful search and seizure, and the execution of search warrants. These policies and regulations dictate what information can be collected and how it can be disseminated and acted upon. Further, the nature of legislative constraints is dependent on the geographic region in which the intelligence analysis is conducted, as different countries have different priorities, policies and regulations. Intelligence analysis requires that information gathered is stored and easily accessible using existing technology. Recent advances in sensing, communication and computing technology have made it increasingly easy to access large amounts of information; however, this means that skilled analysts are needed to sift through this data and distill it into useful and actionable insights.

The three-year Bachelor of Crime and Intelligence Analysis (BCIA) and four-year Honours Bachelor of Crime and Intelligence Analysis (HBCIA) program focus on meeting the demand for professionally trained analysts in the private, public safety and national security sectors. Graduates will collect and analyze information to support decision-makers' strategic and tactical needs and objectives and to help mitigate or respond to threats. The program is grounded in the disciplinary fields of intelligence studies, law, political science, data science, and social science. Students examine the role of intelligence in policy making and law enforcement, and explore ways to ensure the accuracy, integrity, and reliability of collected intelligence to maintain public safety. A mandatory 420-hour experiential work placement provides students the opportunity to activate their knowledge and skills, bridging the transition from education to real-world experience.

The BCIA and HBCIA programs will develop future intelligence analyst practitioners dedicated to providing support and leadership within the evolving landscape of public safety. Graduates enter the industry with the skills to contribute to active investigations and advise policy makers on intelligence supporting the creation of new laws to mitigate active threats to communities they serve. The program will prepare graduates to be practitioners in the intelligence community, working collaboratively, ethically and professionally. The HBCIA graduates engage in intensive research projects and develop the skills and knowledge to pursue further graduate study in security studies, intelligence or related fields.

Graduates of both programs will be prepared to successfully move into employment opportunities such as analysts in law enforcement intelligence divisions, intelligence analysts in Canada's public safety and national security space, financial intelligence analysts in the banking sector, policy analysts and strategic advisors across both public service and private industries.

As per the Ministry of Training, Colleges and Universities' Minister's Binding Policy Directive 3.0, Programs, Framework for Programs of Instruction, the Board of Governors is responsible for approving programs of instruction the college will offer.

It is the role of the Durham College Board of Governors to ensure that programs of instruction are developed and implemented in conformity with the Credentials Framework and are consistent with provincial program standards where they exist. It is also the responsibility of the Board to ensure that all new and modified post-secondary programs of instruction lead to one of the following credentials: Durham College Certificate, Ontario College Certificate, Ontario College Diploma, Ontario College Advanced Diploma, Ontario College Graduate Certificate or Bachelor Degree.

We confirm that Durham College is in compliance with all Minister's Binding Policy Directives as noted above, for this new program of instruction.

4. Discussion

It is expected that the proposed three- and four-year programs in crime and intelligence analysis will be strong additions to DC's program offerings as indicated on the environmental scan.

After a review of the need for the proposed program, DC determined the three- and four-year degree programs would be strong additions to its postsecondary offerings because of the:

- Strong applications and enrolment in a similar degree program at comparator colleges
- Distinct multidisciplinary approach not found in other public safety-related degree programs.
- Strong labour market demand in the public and private sectors for the degree program competencies.
- Pathway to further education for graduates of Police Foundations and Protection, Security and Investigations programs from Ontario colleges.

In the public sector, accurate and timely intelligence can play a critical role in identifying, tracking, and disrupting the activity of criminal organizations, as well as collecting evidence to support arrest and prosecution[2]. Intelligence analysis is also important for identifying foreign and domestic threats to national security, and assessing the social, political, and economic impact of global events. Organizations in the private sector such as banking, insurance, and

[2] Pavlin et al. (2013)

telecommunication hire intelligence analysts with strong skills in data analytics, technology, and economic and socio-political acumen. These multi-disciplinary skills allow intelligence analysts to identify potential threats and support the organizations' ability to respond effectively.

Skilled intelligence analysts contextualize and relate disparate pieces of information, and build meaningful clusters of data from which actionable reports can be generated.[3] Intelligence analysis requires not only the technical skills deployed during data collection and analysis but must also be informed by an in-depth understanding of how that data and analysis is influenced by relevant federal statutes, provincial regulations and municipal by-laws; international codes and conventions; and, geopolitical issues. Each of these areas inform the content of finished intelligence products and the recommendations they make.

The demand for intelligence analysts is robust in Canada. At the municipal and provincial levels, the demand for skilled intelligence analysts has resulted from the adoption of Intelligence Led Policing (ILP). ILP combines problem-solving policing, information sharing and police accountability, with enhanced intelligence capabilities[4]. Under this new ILP philosophy, the intelligence analyst takes on a central role and defines intelligence requirements, identifies threats and follows their evolution, directing resources accordingly. In order to implement the principles of ILP, more organizations require skilled intelligence analysts to support their work.

5. Financial/Human Resource Implications

The New Program Summary attached provides a projected nine-year budget for each proposed degree program with an account of all capital and human resource requirements.

The target for new contribution breaks even in Year 2 for both proposed programs.

The proposals for the new Bachelor of Crime and Intelligence Analysis and Honours Bachelor of Crime and Intelligence Analysis will be submitted to the Ministry of Colleges and Universities for quality review by the Postsecondary Education Quality Assessment Board (PEQAB) in Fall 2023.

6. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

[3] Abadinsky, (2003)
[4] Carter, D. & Carter, J. (2009).

7. Implications for Ontario Tech University

There are no anticipated implications for Ontario Tech University resulting from the implementation of this new program recommendation. Pathway opportunities at Ontario Tech University will be considered in the future for graduates of the proposed program.

8. Strategic Alignment

8.1 Strategic Fit

The proposed program aligns with the following objectives/goals of the Academic, Strategic, and Business plans.

Academic Plan

Goal 1: Ensure Exceptional Quality in our Academic Programs
Goal 2: Enhance Exemplary Teaching and Learning Practices

Strategic Plan and Business Plan

Pillar: Our Students

Goal: To educate and inspire students to realize success in their careers and communities

The proposed program represents an opportunity to prepare intelligence analyst professionals to meet a growing labour market demand. The Academic Plan ensures DC is ready to respond to industry expectations, employer needs, professional practices and workplace technologies. Specifically, the development of the proposed program focuses on ensuring exceptional quality in our academic programs (Academic Plan, Goal 1) through the development of new programs including degrees and enhancing existing exemplary teaching and learning practices (Academic Plan, Goal 2) to inspire students to be successful in their careers and communities (Goal Strategic Plan and Business Plan).

8.2 Fit with Existing Programs

The field of intelligence analysis has good employability outcomes for the foreseeable future. There is a significant demand for skilled graduates to support the law enforcement and national security interests of Canada, yet there are few directly relevant comprehensive educational opportunities in the field of intelligence analysis. The introduction of these intelligence analysis programs at Durham College would be an important step towards addressing this gap.

Degree Credentials

There are limited opportunities for Intelligence Analysis education in Canada. Currently, there is only one college offering a degree program in Crime and Intelligence Analysis, though there are a number of similar programs in the sector. The curriculum in these other programs, however, is geared to public safety and law enforcement. Many Criminology programs, with additional opportunities to specialize through a minor exist at Ontario universities, but there are no specific Intelligence Analysis programs offered as three- or four-year degrees. Wilfrid Laurier offers a Master of public safety degree, but it only offers a single course specifically focused on intelligence.

Non-Degree Credentials

There are a few non-degree offerings related to crime and intelligence analysis in Canada, but these address rather specialized aspects. The Justice Institute of British Columbia offers three graduate certificate programs in Cybercrime Analysis, Intelligence Analysis and Tactical Criminal Analysis[5]. Wilfrid Laurier University offers a Public Safety Graduate Diploma Program specializing in big data[6]. Humber College offers a certificate of completion in Criminal Intelligence Analysis. British Columbia Institute of Technology (BCIT) offers an advanced certificate program in Forensic Investigation – Crime and Intelligence Analysis[7].

[5] 2 Justice Institute of British Columbia. (2022).
[6] Wilfrid Laurier University Online. (2022).
[7] British Columbia Institute of Technology (2022).

New Program Summary

General Program Information

Proposed Program Title:

- Bachelor of Crime and Intelligence Analysis
- Honours Bachelor of Crime and Intelligence Analysis

Proposed Credential:

- Bachelor Degree (3-year) and
- Honours Bachelor Degree (4-year)

Academic Dean(s): Ralph Hofmann, Executive Dean

Faculty: Social Community Services

Date of Review by PPRC: May 10, 2023

MTCU Code: #83007

Weight and Funding Unit (as per APS table): Weight = 1, Funding = 3.5

Proposed Tuition: Year 1: $6100 (domestic); $16, 907.82 (international)

Classification of Instructional Program (CIP) Code(s):

- Law Enforcement Intelligence Analysis (43.0118)
- Cyber/Computer Forensics and Fraud Investigation (43.0116)

NOC Code(s):

- 4168 (2016) – Program officers unique to government equivalent to 41407 (2021) - Program officers unique to government (e.g. intelligence analyst, foreign services officer; intergovernmental affairs officer);
- 2171 (2016) – Information Systems Analysts and Consultants equivalent to 21211 (2021) –
- Data Scientist, and 21220 (2021) – Cybersecurity specialists (e.g. systems security analyst, computer systems analyst);
- 4311 (2016) – Police Officers (except commissioned) equivalent to 41310 (2021) – Investigators, and 42100 (2021) – Police officers (except commissioned) (e.g. RCMP officer, police constable, police sergeant).

Proposed Implementation: Fall 2025

Year 1 Enrolment: 25

Number of Sections, Y1: 1

International Students Seat Allocation: 5

Number of Semesters:

- Six academic semesters + One WIL semester
- Eight academic semesters + One WIL semester

Total Hours:

- 1274 instructional hrs + 420 hrs = 1694 hrs
- 1694 instructional hrs + 420 hrs = 2114 hrs

New or Replacement Program: New

Number of New FT/PT Faculty: 1 FT (year 2, shared); 1 FT (year 3, shared);

Program Delivery Methods: Classroom, online, field placement

Laptop Requirement: No

New or Renovated Space Requirements: No

Total Capital Costs: None

1. Approval Stages

The following approval stages have been assessed for this program:

☒ Escan: Labour Market Analysis and for degrees: Student Demand
☒ Budget reviewed and approved by the Chief Financial Officer
☒ Presented to the Program Proposal Review Committee (DATE: May 10, 2023)
☒ New Program Proposal Summary reviewed by the Associate Dean, Centre for Teaching and Learning (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed by the Executive Dean, Centre for Teaching and Learning (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed and approved by Executive Vice-President, Academic (DATE: May 29, 2023)
☒ New Program Proposal Summary reviewed and approved by President (DATE: May 30, 2023)

2. Program Overview

2.1 Program Description

Bachelor of Crime and Intelligence Analysis (BCIA)

The Bachelor of Crime and Intelligence Analysis (BCIA) program focuses on meeting the demand for professionally-trained analysts in the private and public safety and national security sectors. Graduates collect information to support decision-maker's analytic, strategic and tactical needs and objectives and help mitigate or respond to threats. The program is grounded in the disciplinary fields of intelligence studies, law, political science, data science, and social science. Students examine the role of intelligence in policy making and law enforcement, and how to ensure the accuracy, integrity, and reliability of collected intelligence to maintain public safety. Students demonstrate their abilities during a mandatory 420-hour experiential work placement, serving to bridge the transition from education to real-world experience.

The BCIA program develops future intelligence analyst practitioners dedicated in providing support and leadership within the evolving landscape of the threats to public safety. Graduates enter the industry with the skills to contribute to active investigations and advise policy makers on intelligence supporting the creation of new laws to mitigate active threats to communities they serve. The program prepares graduates to be practitioners in the intelligence community, working collaboratively, ethically and professionally.

Graduates are prepared to successfully gain employment as intelligence analysts in law enforcement intelligence divisions, intelligence analysts in Canada's public safety and national security space, financial intelligence analysts in the banking sector, policy analysts and strategic advisors across the public service and private industry.

Honours Bachelor of Crime and Intelligence Analysis (HBCIA)

The Honours Bachelor of Crime and Intelligence Analysis (HBCIA) program builds from the three-year program through the addition of an intensive focus on rigorous research methodologies, strategic analysis, and advanced tools and strategies to support intelligence activities in specific areas such as financial crime and international relations. The four-year program will provide graduates with more honed skills in research and analysis, with specific focus on unique geopolitical considerations and national security imperatives. Students complete a mandatory 420-hour experiential work placement at the end of year three and demonstrate their knowledge and skills in the application of theory and methodology through a research project in their final year.

The HBCIA program will develop future intelligence analyst practitioners dedicated in providing support and leadership within the evolving landscape of public safety. Graduates enter the industry with the skills to contribute to active investigations and advise policy makers on intelligence supporting the creation of new laws to mitigate active threats to communities they serve. The program will prepare graduates to be practitioners in the intelligence community, working collaboratively, ethically and professionally. Graduates engage in intensive research projects and develop the skills and knowledge to pursue further graduate study in security studies, intelligence or related fields.

Graduates will be prepared to gain employment as intelligence analysts with honed research skills in law enforcement intelligence divisions, intelligence analysts in Canada's public safety and national security space, financial intelligence analysts in the banking sector, policy analysts and strategic advisors across both public service and private industries.

2.2 Vocational Program Learning Outcomes

Vocational program learning outcomes must be consistent with the requirements of the Credentials Framework for the proposed credential. The graduate of the program has reliably demonstrated the ability to:

1. Comply with legal standards to ensure the reliability of the collection of evidence, information and intelligence.
2. Adhere to ethical and legal guidelines to ensure integrity and confidentiality of intelligence.
3. Analyze large data sets to uncover patterns, trends and relationships by applying data mining tools and techniques.
4. Produce intelligence by researching, organizing, analyzing and assessing multiple sources of information.
5. Develop fact-based recommendations and conclusions by adhering to ethical, legal and employer expectations, and the stages of the intelligence cycle.
6. Advise stakeholders on the legal and societal implications of different courses of action to support organizations and agencies to manage risk and policy making.

7. Deliver analytical, strategic and tactical findings/recommendations by creating intelligence assessments, briefing notes, reports and presentations.
8. Work collaboratively, collegially and equitably with members of interprofessional teams by using strong communication and leadership strategies to support diverse stakeholder interests and project deadlines.

2.3 Admission Requirements

- Ontario Secondary School Diploma (OSSD) or Mature Student Status
- Six Grade 12 U or M courses with a combined minimum average of 65 per cent including:
    - Grade 12 U English with a final minimum grade of 60 per cent

2.4 Differentiation (Within DC)

The proposed programs will support the development of knowledge of data analytics within the context of the complex landscape in Canada. The multidisciplinary program content, relevant for both programs, is focused on developing skills in data collection and analysis, enabling graduates to create a detailed picture of emerging threats and offer information that will allow planners and decisionmakers to address such threats effectively. The four-year program will provide graduates with deeper and more honed skills in research and analysis, with specific focus on the unique geopolitical considerations and national security imperatives.

There is growing, and sustained labour market demand for graduates with the analytical skills provided by this degree. DC is well-suited to offer the three- and four-year degree in crime and intelligence analysis. The proposed programs fit well in the Faculty of Social and Community Service (SCS), as part of the cluster of policing programs at DC and provides graduates options to pursue further education.

DC maintains that the three-year degree credential provides both choice and access for students. Students are provided with the option to complete a crime and intelligence analysis program at the baccalaureate level and proceed into the workforce with a credential that permits them to enter their chosen profession with the appropriate knowledge and skills that will enable them to practice in the field. This baccalaureate credential provides graduates with deeper and broader theoretical and conceptual perspectives that position them well for advancement in their workplace, as well as enabling them to return to post-secondary studies to complete an honours baccalaureate degree in two semesters, after working in the field, if they choose. This programming provides choice and smooth transitions from one credential to another, while providing multiple off-ramps into the workforce and enabling those who are seeking a baccalaureate credential to achieve one.

Given the curricular overlap of the three-year and four-year degree programs, DC is planning to offer both programs concurrently with a common cohort of students. After the first three years of study, students may choose to enter the workforce or proceed onto the fourth year of study to complete the honours degree program. This strategy will ensure that the sector will not be overpopulated with graduates while, simultaneously, providing maximum opportunities and choice for students. Additionally, DC is home to leading applied research centres in Cybersecurity and Artificial Intelligence (AI), providing students of the proposed degree programs with opportunity for professional development and hands-on experience on campus.

3. Program of Study

3.1 Work Integrated and Experiential Learning

What work integrated learning (WIL) and/or experiential learning (EL) opportunity is included or planned for this program? Choose all that apply:

Work Integrated Learning Opportunities

- ☐ Co-op (Mandatory)
- ☐ Co-op (Optional)
- ☐ Clinical placement
- ☐ Field/Work Placement
- ☐ Skills Lab that simulates workplace environment (e.g., clinical skills lab used by nursing students to practice on life-like patient models, “fieldwork”)
- ☒ Degree work placement – Mandatory

Experiential Learning Opportunities Aligned with SMA3 Definition

- ☒ Capstone (solving a real problem through applied research)
- ☐ Industry or Community Agency-Sponsored Research Project
- ☐ Service Learning (bridges community service and required for a course)
- ☐ Faculty-led Study Abroad

Experiential Learning Opportunities Not Aligned with SMA3 Definition - Co-curricular Activities

- ☐ Bootcamp/Hackathon
- ☐ Mentorship/Career Exploration
- ☐ Research/Teaching Assistantship
- ☐ On-campus Work Experience
- ☐ Work Study
- ☐ Volunteerism

Describe, briefly, the opportunity(ies) in the proposed program; whether it is consistent with the opportunity(ies) offered at other colleges; if different, why.

Work Integrated Learning (WIL) refers to "the process whereby students come to learn from experiences in educational and practice settings and integrate the contributions of those experiences in developing the understandings, procedures, and dispositions required for effective professional practice, including criticality".[1] The proposed degree programs will include one 14-week work term, totalling 420 hours between year two and three for the three-year program, and year three and four for the four-year program.

[1] Billet, S. (2009b) Realising the educational worth of integrating work experience in higher education. Studies of Higher Education, 34 (7), 827-843.

Program Map – Bachelor of Crime and Intelligence Analysis

YEAR 1		YEAR 2			YEAR 3	
Semester 1	**Semester 2**	**Semester 3**	**Semester 4**	**Spring / Summer**	**Semester 5**	**Semester 6**
Introduction to Data Science	Introduction to Data Analysis	Intelligence on the Border	Open-source Intelligence (OSINT) for Investigations	Field Placement	Terrorism and Political Violent Crime	Gangs and Transnational Organized Crime
Introduction to Criminal Law	Intelligence and the Law in Canada	Evidence and Investigation	Data Management		Financial Intelligence Analysis	Crime Mapping
Introduction to Criminology Theories	Interview, Investigation and Surveillance	Role of Intelligence in a Liberal Democracy	Intelligence in National Security		Technology and Cyber-Investigations	Capstone
Introduction to Intelligence Analysis	Critical Thinking	Equity, Diversity and Inclusion in Intelligence	Interprofessional Collaboration		International Relations: Theory and History	Communicating Intelligence
			Field Placement Preparation			
Breadth	Breadth	Breadth	Breadth		Breadth	Breadth

Intelligence Analysis	Law, Legal, Investigative	Data	Specialized	Geopolitics/ International Relations	Breadth

Program Map– Honours Bachelor of Crime and Intelligence Analysis

Year 1		Year 2		Year 3			Year 4	
Semester 1	**Semester 2**	**Semester 3**	**Semester 4**	**Semester 5**	**Semester 6**	**S/S**	**Semester 7**	**Semester 8**
Introduction to Data Science	Introduction to Data Analysis	Intelligence on the Border	Quantitative Research Methods	Terrorism and Political Violent Crime	Gangs and Transnational Organized Crime	Field Placement	Advanced Financial Crime	Strategic Analysis
Introduction to Criminal Law	Intelligence and the Law in Canada	Evidence and Investigation	Data Management	Financial Intelligence Analysis	Crime Mapping		International Relations: Theory and History	Intelligence and International Relations
Introduction to Criminology Theories	Interview, Investigation and Surveillance	Role of Intelligence in a Liberal Democracy	Intelligence in National Security	Technology and Cyber-Investigations	Open-source Intelligence (OSINT) for Investigations		Intelligence Analysis: Advanced Tools	Intelligence in the Private Sector
Introduction to Intelligence Analysis	Critical Thinking	Equity, Diversity and Inclusion in Intelligence	Interprofessional Collaboration	Qualitative Research Methods	Communicating Intelligence		Thesis Project: Research Proposal Seminar	Thesis Project: Research Analysis and Summary
					Field Placement Preparation			
Breadth	Breadth	Breadth	Breadth	Breadth	Breadth		Breadth	Breadth

Intelligence Analysis	Law, Legal, Investigative	Data	Specialized	Geopolitics/ International Relations	Breadth

New Program Summary

Course Credit for Graduate of Three-Year BCIA program to enter Four-Year HBCIA program

Year 1		Year 2		Year 3			Year 4	
Semester 1	**Semester 2**	**Semester 3**	**Semester 4**	**Semester 5**	**Semester 6**	**S/S**	**Semester 7**	**Semester 8**
Introduction to Data Science	Introduction to Data Analysis	Intelligence on the Border	Quantitative Research Methods	Terrorism and Political Violent Crime	Gangs and Transnational Organized Crime	Field Placement	Advanced Financial Crime	Strategic Analysis
Introduction to Criminal Law	Intelligence and the Law in Canada	Evidence and Investigation	Data Management	Financial Intelligence Analysis	Crime Mapping		International Relations: Theory and History	Intelligence and International Relations
Introduction to Criminology Theories	Interview, Investigation and Surveillance	Role of Intelligence in a Liberal Democracy	Intelligence in National Security	Technology and Cyber-Investigations	Open-source Intelligence (OSINT) for Investigations		Intelligence Analysis: Advanced Tools	Intelligence in the Private Sector
Introduction to Intelligence Analysis	Critical Thinking	Equity, Diversity and Inclusion in Intelligence	Interprofessional Collaboration	Qualitative Research Methods	Communicating Intelligence		Thesis Project: Research Proposal Seminar	Thesis Project: Research Analysis and Summary
					Field Placement Preparation			
Breadth	Breadth	Breadth	Breadth	Breadth	Breadth		Breadth	Breadth

Credit	No credit

New Program Summary

Pathway: Graduate of Three-Year BCIA program to Four-Year HBCIA program

Year 1		Year 2			Year 3		Year 4	
Semester 1	**Semester 2**	**Semester 3**	**Semester 4**	**Spring / Summer**	**Semester 5**	**Semester 6**	**Semester 7**	**Semester 8**
Introduction to Data Science	Introduction to Data Analysis	Intelligence on the Border	Open-source Intelligence (OSINT) for Investigations	Field Placement	Terrorism and Political Violent Crime	Crime Mapping	Advanced Financial Crime	Strategic Analysis
Introduction to Criminal Law	Intelligence and the Law in Canada	Evidence and Investigation	Data Management		Financial Intelligence Analysis	Gangs and Transnational Organized Crime	Quantitative Research Methods	Qualitative Research Methods
Introduction to Criminology Theories	Interview, Investigation and Surveillance	Role of Intelligence in a Liberal Democracy	Intelligence in National Security		Technology and Cyber Investigations	Communicating Intelligence	Intelligence Analysis: Advanced Tools	Intelligence and International Relations
Introduction to Intelligence Analysis	Critical Thinking	Equity, Diversity and Inclusion in Intelligence	Interprofessional Collaboration		International Relations: Theory and History	Capstone	Breadth	Intelligence in the Private Sector
			Field Placement Preparation (non-credit)					Thesis: Research Analysis and Summary
Breadth	Breadth	Breadth	Breadth		Breadth	Breadth	Breadth	

3-year program of study sequence	4-yr program of study sequence

Course Descriptions – (Honours) Bachelor of Crime and Intelligence Analysis

Semester 1

Course Title: Introduction to Data Science
Course description: Students explore the introductory principles of data science and how using the scientific method and technology can extract information from large amounts of data. Students engage with opportunities to gain hands-on experience with data collection, preparation, cleaning analysis and visualization.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Introduction to Criminal Law
Course description: Principles and sources of Canadian criminal law are introduced to students as they investigate categories of crime, criminal liability and responsibility, elements of an offence, procedural rules, criminal defenses, and the principles of sentencing. Students examine the impact of the Charter of Rights and Freedoms on criminal law development and common law precedents through the exploration of contemporary criminal justice issues. The historical context of Canadian criminal law and the institutions and actors involved in creating criminal justice policy are of specific focus.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Introduction to Criminology Theories
Course description: The impact of individual, biological, structural and environmental influences on criminal behaviour are profound and foundational to the development criminology theories. Distinguishing between sociological, biological and psychological perspectives, students analyze criminal behaviour and explore historical and contemporary theories of crime. Students critically examine related Canadian and global criminal justice policy debates, including mass incarceration, corporate crimes, violent crime and sex work.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Introduction to Intelligence Analysis
Course description: Intelligence analysis plays a pivotal role in understanding and communicating to decision makers what is known, not known, and surmised. Through the exploration of the intelligence cycle, students build a foundation of knowledge of what intelligence is, it's historical evolution as a method of statecraft, and how it differs from information and evidence. Students apply basic analytic methodology in case studies on real-world issues (past and present) and discuss how intelligence and intelligence analysis may differ within different industries such national security and law enforcement. Key methods for communicating in the field (oral and written) are introduced, and the power of groupthink, influence and other cognitive trappings that occur in intelligence analysis are explored.
Instructional Setting: Classroom/online

Total Hours (Semester): 42

Semester 2

Course Title: Introduction to Data Analysis
Course description: Four main types of data analytics, the use of data (and big data) in analysis and research, and data visualization are explored.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Intelligence and the Law in Canada
Course description: Intelligence and the Law in Canada outlines specific laws and statutes that govern all aspects of the intelligence sector. Students analyze how laws and court precedents, and the roles and responsibilities of Canadian intelligent agents as prescribed by law, impact intelligence operations. Students examine state accountability in intelligence, domestic and international human rights, privacy protections, screening powers for intelligence, and the role of intelligence in prosecutions. Tensions between rights and public safety, and the relationships between domestic and international law on intelligence gathering activities are critically evaluated.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Interview, Investigation and Surveillance
Course description: Students examine the role of interviews and surveillance in collecting evidence and intelligence and the role they play in investigations. They explore how these sources of intelligence and evidence collection fit into the intelligence cycle, how to conduct analysis, and the importance of documentation and lead generation in investigations.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Critical Thinking
Course description: Critical thinking and reasoning are essential skills for intelligence analysis. Students learn how to prove a premise through the structured application of formal logic and consider the impact of perspective, biases and fallacies, enthymemes, assumption and interpretation on developing a sound argument. Ways in which students can effectively and consistently determine the reliability of sources are also explored, in order to support the development of evidence-based analyses.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 3

Course Title: Intelligence on the Boarder
Course description: The Canadian Border Services Agency (CBSA) and the Canada Customs Act provide the foundation on which Canada's immigration program operates. Students explore the CBSA's contribution to Canada's intelligence community, citizenship in nation-states, the Immigration and Refugee Protection Act and the role of deportation in citizenship making and unmaking.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Evidence and Investigation
Course description: Students explore the fundamental aspects of conducting investigations and evidence collection. Crime scene analysis, conducting investigations in a national security context and the role of interviewing and surveillance is explored. Particular focus is on understanding the differences between evidence and intelligence.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Role of Intelligence in a Liberal Democracy
Course description: Exploring the influence of the Canadian political process on intelligence and policymaking is paramount for understanding the role of intelligence analysis and the scope of the intelligence sector. Students examine Canadian legislative processes and investigate how intelligence contributes to and informs policymaking, including the limitations created by the Constitution, the Charter, international law obligations and legal precedents. Students explore the politicization of intelligence policy process and ethical considerations for intelligence and policymaking within the Canadian political sphere.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Equity, Diversity and Inclusion in Intelligence
Course description: Students examine basic moral, ethical and privacy considerations in intelligence. The intersections of race, class and gender are explored to assess how they factor into intelligence collection and analysis and impact the intelligence cycle. Racial and class-based profiling, sexism and heteronormativity are examined within the role of individual rights and national security. Problematic policies such as “carding” and redress policies are also explored.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 4

Course Title: Open-source Intelligence (OSINT) for Investigations Course description: The role of open source intelligence (OSINT) tradecraft in intelligence and law enforcement investigations is explored. Students examine the functions of OSINT, collection and analysis strategies, and best practices for writing reports and disseminating findings. Students explore social media analysis, as well as the role of the deep web in furthering investigations. They consider the ethical and legal implications of the use of OSINT and the evolution of the tradecraft.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Data Management
Course description: Students explore at an introductory level the methods for storing, retrieving, and analyzing structured, semi-structured, and unstructured data. Students will examine techniques for handling big data, securing it and the basics of encryption.

Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Intelligence in National Security
Course description: Students examine intelligence in a national security context and explore the role of intelligence collection and analysis in the national security space. Organizations such as the Canadian Security Intelligence Service (CSIS), Communications Security Establishment (CSE), Global Affairs Canada (GAC), Department of National Defense (DND) and Privy Council Office (PCO) are explored, in addition to the intelligence oversight process and mechanisms in Canada through organizations and groups such as National Security and Intelligence Review Agency (NSIRA) and National Security and Intelligence Committee of Parliamentarians (NSICOP). The overlap of law enforcement and national security investigations in counter-terrorism and counter-intelligence is explored.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Interprofessional Collaboration
Course description: Effective intelligence analysis relies on strong team dynamics and professional collaboration with external organizations that may have both competing and shared interests. Students engage with case studies, scenarios and lecture-based learning to examine the strengths and pitfalls that can emerge in the intelligence field. Particular emphasis is placed on groupthink.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: WIL Preparation
Course description: This course is designed to prepare students for their field placement experience. Students will learn about the roles and responsibilities of those in the field of cybersecurity, the various agencies and organizations in which they are employed, and the placement opportunities available that will facilitate progression towards their professional goals and aspirations. Students will be introduced to placement search techniques, field placement learning objectives, roles of agency supervisors and college advisors. To succeed in this course, students will complete the necessary forms and paperwork required for field placement as well as participate in the selection process for field placement.
Instructional Setting: Classroom
Total Hours (Semester): 14

Spring/Summer: Work Integrated Learning

Course Title: Work Integrated Learning
Course description: The field placement work integrated learning experience is viewed as an integral part of the degree program. The practical aspects of field work, in conjunction with the academic studies, enables the student to better understand methods and techniques for organizing activities and working collaboratively with people.

Field experiences contribute to meeting the program learning outcomes in different manner than in an academic setting.
Instructional Setting: Field
Total Hours (Semester): 420

Semester 5

Course Title: Terrorism and Political Violent Crime
Course description: Early identification of associated risks and counter-terrorism strategies is an important aspect of intelligence analysis. Students explore the multidisciplinary study of terrorism. Emphasis is on understanding a fluid threat environment that includes Ideologically Motivated Violent Extremism (IMVE) including Far-right Terrorism as it relates to political violence, hate crime and human security, Far-left Terrorism such as Eco-Terrorism, and religious fundamentalism. An examination of terrorism, counterterrorism and the rule of law, governing policies, prosecution of cases, national strategies, and emergent issues such as international terrorism, homegrown or domestic terrorism, Canadian high-risk travelers, and lone actors is undertaken to explore various mechanisms of radicalization, cyber security and cyber terrorism.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Financial Intelligence Analysis
Course description: Students explore financial crime laws, the Proceeds of Crime (Money Laundering) and Terrorist Financing Act (PCMLTA) and the role of financial analysis in intelligence in the national security and law enforcement sectors. The course explores the anti-money laundering (AML) process at financial institutions and the role of Knowing Your Client (KYC) to detect financial crimes. The course will cover anti-money laundering (AML) reporting and suspicious transactions and the ways in which AML functions in investigations in addition to the role federal financial intelligence bodies like FINTRAC play in law enforcement and national security.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Technology and Cyber-Investigations
Course description: Cybercrime is one of the fastest growing threats to individual, corporate and national security. Strategic partnerships are essential in identifying cyber-based threats and to conducting both overt and covert cyber investigations. Students are introduced to conducting investigations as part of a team and the value of partnerships with other organizations and agencies. Students discover strategies for conducting cybercrime investigations and methods for collecting and preserving evidence from technological and Internet sources.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: International Relations: Theory and History
Course description: This course surveys international relations (IR) and introduces students to IR history and theory. Students learn IR realist, liberal, economic

globalization, and constructivist theories and the role of geopolitics in nation-state policymaking.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 6

Course Title: Gangs and Transnational Organized Crime
Course description: The course examines gangs and organized/transnational organized crime groups using multidisciplinary approach involving criminology, sociology and public policy. It further examines law enforcement and intelligence framework designed to respond, contain and mitigate the local impact of transnational organized crime. Students will examine methods to identify and assess various global criminal markets such as narcotics, human trafficking and smuggling, firearms trafficking, illegal gaming, money laundering, terrorism financing and foreign interference as it seeks to identify local and national implications. The students will further examine the impact of organized crime on the economy, national security and human security. Furthermore, the students will study the nature of how gangs recruit, operate and impact community safety and examine its interactions with various organized crime groups.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Crime Mapping
Course description: Crime analysis has evolved over time, playing an increasingly important role in assisting the investigative processes of law enforcement. Students investigate how geospatial analysis and the Graphic Information System (GIS) assist with understanding crime trends and patterns, and the ways in which each of these tools support evidence-based crime mapping using spatial statistics.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Capstone
Course description: This course is a major, collaborative, and culminating achievement of a student's undergraduate career. The conceptualizing, researching and defending written work, represents a creative research effort that demonstrates the students' knowledge, skills, and understanding in the field and scientific research methodology. By engaging in the research process, students will enhance their knowledge in a specific area within the discipline.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Communicating Intelligence
Course description: The course introduces students to the basics of researching and writing specifically for intelligence analytical products and communicating their intelligence findings and products in written and oral form. Students learn the foundations for effective and concise briefing strategies.
Instructional Setting: Classroom

Total Hours (Semester): 42

Course Descriptions – Honours Bachelor of Crime and Intelligence Analysis

Semester 4

Course Title: Quantitative Research Methods
Course description: Students study basic concepts and methods for doing quantitative research and using statistics and predictive analytics in their analyses. Students review, present, and critically evaluate quantitative information. Topics include: probability models, random variables, normal and non-normal distributions, hypothesis testing.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 5

Course Title: Qualitative Research Methods
Course description: This course will prepare students for conducting independent research using qualitative methods. Students will critically analyze qualitative research methodology and apply it appropriately to various investigations. Students will demonstrate their understanding of common research methods and their ability to interpret the results of qualitative research techniques, and to identify and conduct the appropriate techniques for different kinds of research questions.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 7

Course Title: Advanced Financial Crime
Course description: The course provides an in-depth examination of different themes involved in financial investigations such as trade-based money laundering, bribery, international sanctions and laundering via the blockchain and crypto-currency. Students will apply knowledge and techniques acquired in financial intelligence analysis to further explore more specialized areas of financial crime and how these activities contribute to the overall intelligence collection and analytical process. Students will learn via a mixture of scenario-based learning, exercises and lectures.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Intelligence Analysis: Advanced Tools
Course description: In this course, students learn different types of intelligence analyst tradecraft that are used in the field. Students utilize the most current practices in place, analytical techniques and critical reasoning to identify biases, promote self-reflective reasoning, and apply it to intelligence analysis. Topics can include structured analytical techniques.

Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Thesis Project: Research Proposal Seminar
Course description: This course assists students in completing a major research project or academic paper that demonstrates their professional and academic competencies learned in the degree program. With the support of the professor, students in this course will independently develop and present a research project. Students are encouraged to pursue collaborative relationships with professionals from their practica and professors from other courses to help support them in the development of their research proposal. Students are expected to start the course with ideas for their major research project or paper.
Instructional Setting: Classroom
Total Hours (Semester): 42

Semester 8

Course Title: Strategic Analysis
Course description: Students will be introduced to strategic culture analysis and learn how to apply it to improve their analysis and their forecasting products. Students will use case-studies to help them understand states' intentions, motives and capabilities. The course will enable students to think strategically and apply this thinking to the creation of strategic plans in both the private and public sectors.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Intelligence and International Relations
Course description: The course focuses on the role of intelligence in international relations. It will cover the history and development of intelligence services in the US, UK, Russia, China and Canada. Students learn the role of intelligence in war as well as major intelligence failures and successes.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Intelligence in the Private Sector
Course description: The course provides students with intelligence techniques and an understanding of how intelligence operates in the private sector. for the corporate environment. They learn how to enable business through intelligence collection and analysis, as well as understand the intelligence cycle, the business cycle, misinformation, disinformation and using sources and methods. Students examine how to disseminate intelligence and techniques and strategies to write for business and create infographics. They and learn how intelligence provides value to business, the role of corporate drivers and risk assessment, as well as challenges and vulnerabilities in the spaces and learn the basics of building infographics.
Instructional Setting: Classroom
Total Hours (Semester): 42

Course Title: Thesis Project: Research Analysis and Summary
Course description: This course is a major, collaborative, and culminating achievement of a student's academic career. The thesis experience; conceptualizing; researching and defending written work, represents a creative research effort that should demonstrate the students' knowledge, skills, and understanding in both the implementation of the field and scientific research methodology. By engaging in the research process, students will enhance their knowledge in a specific area within the discipline.
Instructional Setting: Classroom
Total Hours (Semester): 42

4. Strategic Alignment

4.1 Strategic Fit

The proposed program aligns with the following goals of the Academic, Strategic, and Business plans.

Academic Plan
Goal 1: Ensure Exceptional Quality in our Academic Programs
Goal 2: Enhance Exemplary Teaching and Learning Practices

Strategic & Business Plans
Pillar: Our Students

Goal: To educate and inspire students to realize success in their careers and communities.

The proposed program presents the opportunity for DC to prepare intelligence analyst professionals to meet growing labour market demand. The Academic Plan ensures DC is ready to respond to industry expectations, employer needs, professional practices and workplace technologies. Specifically, the development of the proposed program focuses on ensuring exceptional quality in our academic programs (Academic Plan, Goal 1) through the development of new programs including degrees, and enhancing existing exemplary teaching and learning practices (Academic Plan, Goal 2) to inspire students to be successful in their careers and communities (Goal Strategic Plan and Business Plan).

4.2 Fit with Existing Ontario College and University Programs

The field of intelligence analysis has good employability outcomes for the foreseeable future. There is significant demand for skilled graduates to support the law enforcement and national security interests of Canada, yet there are few directly relevant, comprehensive educational opportunities in the field of intelligence analysis. The introduction of an intelligence analysis program at DC would be an important step towards addressing this gap.

Degree Credentials

There are limited opportunities for Intelligence Analysis education in Canada. Currently there is only one college offering a degree program in Crime and Intelligence Analysis, though there are several similar programs in the sector. The curriculum in these other programs is geared to public safety and law enforcement. It is worth to note that the three-year degree will be unique in the system. Many Criminology programs with additional opportunities to specialize through a minor exist at Ontario universities but there are no specific Intelligence Analysis programs offered as three- or four-year degrees. Wilfrid Laurier offers a Master of public safety degree but it only offers a single course specifically focused on intelligence.

Non-Degree Credentials

There are a few non-degree offerings related to crime and intelligence analysis in Canada but these address rather specialized aspects. The Justice Institute of British Columbia offers three graduate certificate programs in Cybercrime Analysis, Intelligence Analysis and Tactical Criminal Analysis[2]. Wilfrid Laurier University offers a Public Safety Graduate Diploma Program specializing in big data[3]. Humber College offers a certificate of completion in Criminal Intelligence Analysis. British Columbia Institute of Technology (BCIT) offers an advanced certificate program in Forensic Investigation – Crime and Intelligence Analysis[4].

5. Labour Demand and Graduate Employment Possibilities

It is expected that the proposed three- and four-year programs in crime and intelligence analysis will be strong additions to DC's program offerings as indicated in the environmental scan.

After a review of the need for the proposed program, DC determined the three- and four-year degree programs would be strong additions to its postsecondary offerings because of the:

- Strong applications and enrolment in a similar degree program at comparator colleges.
- Distinct multidisciplinary approach not found in other public safety-related degree programs.
- Strong labour market demand in the public and private sectors for the degree program competencies.
- Pathway to further education for graduates of Police Foundations and Protection, Security and Investigations programs from Ontario colleges.

[2] 2 Justice Institute of British Columbia. (2022).
[3] Wilfrid Laurier University Online. (2022).
[4] British Columbia Institute of Technology (2022).

5.1 Labour Market Analysis

Intelligence analysis involves the identification, collection, interpretation and dissemination of information that is of strategic value[5]. The goal of intelligence analysis is to ensure that judgements are well-informed and thoroughly considered, and subsequent responses to potential threats are effective. Skilled intelligence analysts contextualize and relate disparate information and build meaningful clusters of data from which actionable reports can be generated. Intelligence analysis helps decisionmakers understand the bigger picture and provides detailed insight to inform strategic planning and enforcement action[6].

A significant amount of the work of intelligence gathering and analysis is subject to constraints imposed by legislation. For example, privacy legislation, individual rights against unreasonable search and seizure along with regulations governing the execution of search warrants. These constraints may also differ according to the geographic region where intelligence activities are conducted. For example, the regulatory regime in the United States differs from that of Canada. Additional constraints may be imposed by technology and may include availability and storage of user data. Each constraint adds complexity to gathering and contextualizing intelligence.

Statistics Canada reports that the number of cybercrimes reported to police in Canada is on the rise[7], and costs Canadians approximately $3.12 billion/year.[8] Examples of cyber crimes include hacking, online fraud and all manner of traditional criminal activities, committed in a virtual manner. In an effort to combat cybercrime and “safeguard Canadians’ digital privacy, security and economy”, the Canadian government developed a new National Cyber Security Strategy (2018), which emphasizes the need to protect systems and critical infrastructure from cyber attack.[9]

Intelligence analysis will be critical to the successful execution of the Canadian National Cyber Security Strategy. Intelligence analysis identifies potential cyber threats and disseminates relevant information to the appropriate stakeholders in order to prevent adverse outcomes. This work is necessary to strengthen critical infrastructure and systems to avoid potentially catastrophic consequences for Canadians. For example, operationally, the electrical grid, water infrastructure and traffic control systems in Canada have become increasingly centralized and automated. These centralized systems offer Canadians many benefits in terms of efficiency and performance, but also make them susceptible to cyber attacks that could inflict serious damage and cost Canadians immensely in terms of loss economic output and potentially life, health and/or welfare. Intelligence analysis supports the identification of vulnerabilities and supports efforts to secure public

[5] Abadinsky, H. (2003)
[6] Humber College
[7] Statistics Canada. (2020) Police-reported cybercrime, by cyber-related violation, Canada. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510000101
[8] The Canadian Chamber of Commerce. (2017). Cyber Security in Canada: Practical Solutions to a Growing Problem. http://www.chamber.ca/media/blog/170403-cyber-security-in-canada-practical-solutions-to-a-growing-problem/
[9] Public Safety Canada. (2019) National Cyber Security Strategy. https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/ntnl-cbrscrt-strtg/index-en.aspx [10] Davis, P. (2022)

infrastructure against the possibility of an attack by a hostile actor seeking to cause disruption. Such preventative actions limit the possibility of a catastrophic failure.

Intelligence analysis thus plays a key role in supporting national security affairs, whether economic, social or political. For example, intelligence analysis plays a key role not only in international military conflicts, but also in identifying and assessing potential trade impacts of global events such as the economic impact of political upheaval in Sri Lanka[10], impact of commodity supply chain challenges arising from the Ukraine conflict[10] or ascertaining and ensuring pharmaceutical supplies during the pandemic[11].

A variety of private organizations with critical security needs are also supported by the work of intelligence analysis. In Canada, there are three main telecommunications providers who connect the country and account for 90 per cent of the market[12]. The services of these telecommunications companies are foundational to Canadians' ability to conduct commerce, which is valued at approximately $720 million every day[13]. The critical importance of telecommunications infrastructure was recently highlighted by the partial-day shutdown of the Rogers network on July 28th, 2022 which deprived many businesses of their ability to operate.

The economic viability of Canadian industry and small businesses in particular would be adversely impacted if an extended disruption of telecommunications services occurred. Such a disruption could have a profound impact on the Canadian economy, resulting in fallout that could take a considerable amount of time to address and correct. Intelligence analysis supports the ability of telecommunications companies to offer their services in an uninterrupted manner through efforts to make systems more resilient and early identification of emerging threats before they become incidents.

The international component of intelligence analysis work extends beyond the need to insulate Canadian corporations from incursions by hostile international individuals or groups. Intelligence analysis is extensively applicable in other private sectors as well, particularly those with transnational business interests. For example, the banking and insurance sector in Canada employs teams of analysts who provide intelligence support in the areas of money laundering, terrorist financing, online fraud in addition to other financial crimes.

Money laundering is a complex and rapidly evolving problem in Canada. Since 2019, the government has spent nearly $368 million to strengthen its Anti-Money Laundering (AML) and terrorist financing obstruction capabilities[14]. In addition to this government investment, Canadian banks devote substantial resources to AML both in detection and compliance[15]. No clear figure is available to determine

[10] Williams, R. (2022).
[11] European Medicines Agency (2022).
[12] Rajagopal, D. & Shakil, I. (2022).
[13] Zadikian, M. & Poshnjari, I. (2022).
[14] Public Safety Canada (2022)
[15] Canadian Bankers Association (2022)

exactly how much is spent to this effect in Canada; however, American banks have estimated that spending on compliance with AML legislation exceeded $7 billion in 2015[16]. Intelligence analysis is crucial to supporting this work through the identification of emerging risk, and ensuring compliance with national laws that govern financial crime. Money laundering in particular represents only a small part of a much large problem of criminal offending by organized groups. The low-level crimes that support larger money laundering operations are also increasingly becoming transnational in nature.

Organized crime groups such as street gangs, human trafficking organizations, and other violent criminal groups are increasingly operating in diverse areas across the globe. Disrupting their activities requires specialized intelligence and technically sophisticated approaches from law enforcement[17]. Intelligence analysis enables law enforcement to identify, monitor and effectively target interventions that can disrupt the activities of organizations engaged in transnational criminal activity, supporting the security of Canadian citizens and preventing further harm as a result.

Due to the discreet nature of the work required of intelligence analysts, the jobs are often posted under a wide range of titles, across a range of sectors, thereby making it challenging to conduct a definitive assessment of the number of job opportunities available. However, given the wide-ranging applicability of the intelligence analysis profession in an increasingly technology-enabled world, and it is usefulness across wide ranging sectors, it is reasonable to identify it as an area of increasing job opportunity. Despite limited available Canadian projections, there are assessments from the United States which can be used to estimate demand.

The need for intelligence analysis in the United States has grown dramatically over the past 20 years. The acts of terrorism committed against the United States on September 11, 2001 (referred to as 9/11) provided a particular impetus on the gathering and deployment of intelligence analysis to address national security concerns. The Federal Bureau of Investigations (FBI) has tripled the number of intelligence analysts since the events of 9/11[18]. The urgency in the importance of intelligence analysis in the United States has had an impact throughout the agencies in which they have been hired. For example, within the FBI, intelligence has now been integrated into senior leadership roles and multiple points throughout the department, including in middle management, overseeing teams of other analysts.

In Canada, it is reasonable to assume a similar demand for skilled intelligence analysts at agencies from federal to the municipal level. At the municipal and provincial levels, the demand for skilled intelligence analysts has resulted from the adoption of intelligence-led policing (ILP) strategies. Historically, intelligence collection has been driven by the goals of law enforcement. These goals include

[16] Kenny, C. (2015)
[17] Federal Bureau of Investigation (N.D)
[18] Muller, R. (2011)

arrest and subsequent criminal prosecutions[19]; however, ILP combines problem-solving policing, information sharing and accountability, with enhanced intelligence capabilities[20]. Under this new ILP philosophy, the intelligence analysts take on a more central role by defining intelligence requirements, identifying threats and following their evolution. Area managers are subsequently enabled to direct resources in accordance with intelligence reports and recommendations made by analysts. In order to fully implement the principles of ILP, more organizations require skilled intelligence analysts to support work in law enforcement. This demand is in addition to the traditional federal and provincial organizations that would employ intelligence analysts such as the Canadian Security and Intelligence Service (CSIS), Global Affairs Canada and the National Security and Intelligence Review Agency.

Security and Intelligence Analysis - Process and Competencies

Intelligence Cycle

The intelligence cycle is a complex and involved process required to generate meaningful intelligence analysis. It starts with the needs of the intelligence "consumers" such as policymakers, military, law enforcement officials, and other decisionmakers who require intelligence to inform their activities. These requirements are sorted and prioritized, and are used to drive the data and information collection activities of the intelligence analysis. This cycle involves Planning, Collection, Processing, Analysis and Dissemination.

Planning and collection involve determining what information must be gathered to provide appropriate answers to relevant questions, and then gathering raw information from a variety of sources. Relevant sources are often grouped into one of six categories, signals (SIGNT), imagery (IMINT), measurement and signature (MASINT), human source (HUMINT), open source (OSINT) and geospatial (GEOINT)[21].

Processing involves collating and organizing large amounts of unfiltered data, which is then analyzed through the integration and interpretation of available data, followed by distilling that data into a finished product. These finished products are often detailed reports, and include assessments and judgements about the implications of the analysts' findings. Dissemination refers to the sharing of finished intelligence products with policy makers and other stakeholders whose needs generated the intelligence requirement.

Subsequently, Lowenthal has recommended the enhancement of the dissemination phase to prioritize "Dissemination and Consumption" to ensure that policy makers are not pressed into action simply by the receipt of intelligence[22]. Lowenthal further recommends an additional step in the

[19] Muller, R. (2011)
[20] Carter, D. & Carter, J. (2009). (BJA) Steal Citation
[21] Unknown (2020).
[22] Bacastow, T., Richards, J., & Heuer,
J. (2006). [24] Abadinsky, 2003.

Intelligence process cycle - Feedback. This step involves a debrief between intelligence producers and consumers to assess the degree to which the finished intelligence product addresses the needs of the consumer and determine if any adjustments are required.

Intelligence Complexity

The aim of all intelligence work is to increase understanding about an issue and to assist in preventative efforts and policy development through finished intelligence products[24]. The content and dissemination strategies used for finished intelligence products varies widely and increases in complexity depending on a variety of factors. Further adding to the complicated nature of finished intelligence products is the differing needs and mandates of federal and provincial agencies.

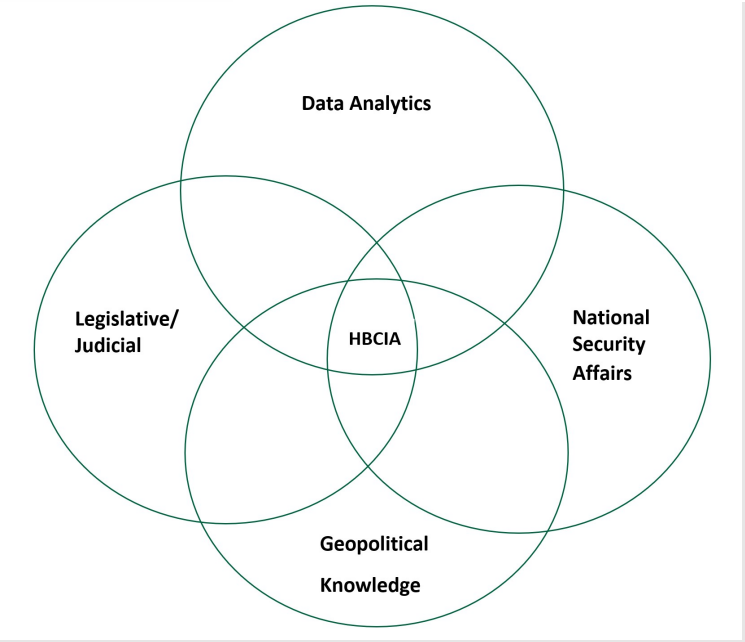
Tactical intelligence serves the immediate objectives of law enforcement, specifically arrest and prosecution[23]. An example of tactical intelligence includes a crime analyst using the content of arrest reports to build an understanding of crime typologies that are prevalent in an area, and the times or circumstances under which those crimes are being committed. This data is then used to inform strategic decisions about organizational priorities, such as resource deployment.

Strategic intelligence differs from tactical intelligence in its longer-term perspective. Strategic intelligence attempts to understand the underlying reasons as to why a particular action is taking place, and critically focuses on the identification of threats and potential threats rather than enforcement. In addition, strategic intelligence reporting covers a wide array of information that may be considered to belong to one of five categories: current intelligence which is focused on day to day events, estimative intelligence which looks forward to assess potential developments, warning intelligence sounds the alarm to policy makers, scientific/technical intelligence examines technical development, characteristics, performance and capabilities of foreign technologies and research intelligence supports other finished intelligence products[26].

Skilled intelligence analysis requires not only the technical skills for data collection and analysis, but must be informed by a deep understanding of how that data and analysis is shaped by relevant federal statutes, provincial regulations and municipal by-laws, an understanding of relevant international codes and conventions, and a keen understanding of relevant geopolitical issues.

The figure below illustrates the multidisciplinary nature of an intelligence analysis role. It presents the key fields in which competencies are required and their synergic connections.

[23] Gabor, T. (2003).
[26] Unknown (2020).



Data Analysis

Intelligence analysts leverage a vast array of data and information from multiple sources, analyze it with relevant software and data visualization tools and employ statistical techniques to generate finished intelligence products or documentation.

The increasing adoption of digital identities and the proliferation of connected devices has significantly increased the availability of digital information[24]. This is a valuable intelligence tool to support the identification of potential threats. Despite the widespread availability of data and the proliferation of its sources, a significant amount of an analyst's time is spent aggregating and organizing data in order to identify relevant patterns of information, and building context for these disparate pieces of information. For example, while geolocation data is widely available through wireless providers, external applications and other connected devices, it is often structured in unique ways depending upon the source collecting it. In order for this information to be useful, the intelligence analyst must compile, standardize and carefully discern any helpful context that can be gleaned. The software tools used to aggregate information are often technical in nature, and might include required familiarity with machine learning, multiple programming languages and data aggregation techniques. The analysis blends together the data/information collation techniques and the real-world know-how of the analyst. This know-how extends into a variety of other realms including legislative and judicial.

Legislative and Judicial

Intelligence analysts require deep understanding of legislative and judicial frameworks, as there are often overlapping legal statutes that regulate

[24] Alexander, L. (2022).

investigations. For example, groups conducting auto theft in Toronto may organize to sell the stolen automobiles overseas. This introduces significant complexity to the investigation due to the addition of another jurisdiction with unique laws and geopolitical concerns. Auto theft is typically investigated at the local level by the relevant municipal police force; however, if the investigation were to transcend national boundaries, then the Royal Canadian Mounted Police (RCMP) become involved. If there is a deeper national security imperative, then coordination with the Canadian Security and Intelligence Service (CSIS) or other relevant federal bodies might then be necessary. It is important for the intelligence analysts to consider these mandates and relationships, to organize, coordinate and disseminate information accordingly. There is also the possibility of overlap with the private sector, as the proceeds of crime will often flow through private banks which have AML teams that possess relevant expertise, and their own internal teams of analysts to support ongoing investigations, regulatory compliance and enforcement action.

In order for an intelligence analyst to successfully navigate complex legal challenges in collection and dissemination of available evidentiary information, they require an ability to understand the various federal statutes and provincial regulations that authorize intelligence gathering functions in relation to prohibited activity. In addition, the intelligence analysts require the ability to understand discrete, but often overlapping jurisdictions and to make use of available investigative resources.

National Security Affairs

National security is a broad concept that includes the security and defence of a sovereign state, including its citizens, economy, and institutions. The purview of national security extends beyond just protection against a military attack; national security is widely understood to include non-military dimensions, such as, security from terrorism, prevention of crime, energy security, environmental security, food security, and cyber-security. National security risks include the actions of other nation states, in addition to action by violent non-state actors, such as actions by narcotic cartels, or by multinational corporations.

Under the new intelligence paradigm that prioritizes threats over tactical elements such as investigation and prosecution, intelligence analysts must collect and maintain information and coverage of wide-ranging areas. Examples include, monitoring a Canadian resource company that is being targeted by espionage agencies from other nation states, and monitoring for a potential cyberattack on power grids and water-treatment plants. In most of these cases, a crime may not have occurred, but the mere threat of compromise would be contrary to the national security of Canada and hence require intelligence coverage from intelligence analysts. A skilled intelligence analyst goes beyond the mere coverage of an area. Skilled intelligence analysts also understand the geopolitical ramifications of these issues, and how the information can be best interpreted and presented in an intelligence report.

Geo-political

Geopolitical competencies include the knowledge and ability to analyse the geographic influences on power relationships in the context of international relations[25]. Modern geopolitical endeavors approach international affairs with a grounding in history, geography and culture. The importance of geopolitical knowledge for an analyst cannot be understated. A knowledge of various geopolitical issues informs the quality of the finished intelligence products an analyst will produce. For example, an analyst responsible for coverage of the Indo-pacific region would require extensive knowledge of strategic projects like China's Belt-and-Road initiative, the increasing Chinese military presence in the Indo-pacific seas, and the response of the United States and other nations through the strategic alliance of "Quad" nations, "ANZUS", "AUKUS"[26], and how these complex factors should be assessed and processed in order to make the recommendations in their intelligence reports. This critical component of an analysts' toolkit ultimately shapes the quality of their recommendations and the utility of intelligence gathering function.

Each of the competencies described above are taught independently as part of a variety of other academic disciplines. For example, data analytics is taught as part of Computer Science or related programs, national security affairs as part of Criminology or Law enforcement related programs, geo-politics as part of Political Science or International Relations, and legislation as part of Legal and related studies; however, few programs combine these disciplines to educate intelligence analysts who would be well-versed in national security affairs, as well as interests across a wide range of public and private sectors.

Industry Trends

National Trends

As Canada's national law enforcement service, the Royal Canadian Mounted Police (RCMP) has a wide range of national security-related mandates and responsibilities[30]. Activities that fall under this broad mandate include criminal investigations of national significance, municipal policing, border security, infrastructure protection and critical incident management. While the RCMP has the exclusive jurisdiction to enforce the law related to matters of national security, there are a variety of federal organizations who engage in gathering and sharing of intelligence. The RCMP leverages both strategic and tactical forms of intelligence in addition to intelligence generated by other federal organizations. Similar organizations at the federal level working in national security, such as, the Canadian Security and Intelligence Service (CSIS), Canadian Border Services Agency (CBSA), Global Affairs Canada and the National Security and Intelligence Review Agency (NSIRA), share relevant intelligence with the RCMP for enforcement purposes; however, the bulk of intelligence work conducted by

[25] Deudney, D. (2022).

[26] Murrell, A. (2022).

[30] RCMP (2020).

these organizations falls within the category of strategic intelligence. The wide range of organizations at the federal level that work in the intelligence space provide a variety of opportunities for skilled intelligence analysts.

The specific expertise of analysts in each space may vary. For example, analysts working with Financial Transactions and Reports Analysis Centre of Canada (FINTRAC) will develop a unique expertise compared to an analyst working for Global Affairs Canada. However, skilled intelligence analysts all require skills in data analytics, legislative and legal analysis and geopolitical/national security aptitude all support the ability of analysts to produce timely intelligence to be shared with relevant enforcement agencies and other federal and provincial groups

Industry Trends

Provincial Trends

A number of provincial agencies and law enforcement services also collect and disseminate intelligence, primarily tactical intelligence. This intelligence deals with the immediate law enforcement objectives of arrest and prosecution. The major law enforcement agency in the province of Ontario is the Ontario Provincial Police (OPP). The OPP has committed extensive resources to the gathering of intelligence and the enforcement of the law in the province of Ontario. The OPP serves both as the largest police service in the province and as a provider of contract policing services to rural communities in the province. In addition to the OPP, several large municipalities also have well-resourced police services with their own teams of intelligence analysts. This requires intelligence analysts to be particularly trained in inter-jurisdictional collaboration of intelligence gathering and sharing. For example, while the OPP has access to vast policing resources, they are not concentrated in locations with large municipal policing operations. This creates a need for strategic intelligence sharing with municipal services who have the necessary local enforcement resources to act upon intelligence.

Regulatory Bodies, Other Associations and Affiliations

- International Association of Crime Analysts
- Ontario Crime Analysis Network
- Criminal Intelligence Service Canada
- International Association of Law Enforcement Intelligence Analysts
- Association of Crime and Intelligence Analysts
- Canadian Association of Chiefs of Police (CACP)
- Royal Canadian Mounted Police (RCMP)
- Ontario Provincial Police (OPP)
- Ontario Association of Chiefs of Police (OACP)
- Canada Border Services Agency (CBSA)
- Canadian Security and Intelligence Service (CSIS)
- Communications Security Establishment (CSE)
- Canadian Anti-Fraud Centre (CAFC)

National Occupational Classification: Analysis

The following discussion presents four occupations relevant to the field of intelligence analysis. The National Occupational Classification (NOC) provides a standardized framework for organizing the labour force in a coherent system. Statistics Canada has updated the NOC classifications in 2021 to provide a finer and more updated reflection of the labour market using five digits instead of four for the NOC codes and corresponding it to the updated six-cateogry training, education, experience and responsibilities (TEER) system.

Despite this update, many sources of labour market information have not yet transformed their database from the 2016 NOC structure to the 2021 NOC structure. Hence the following description identifies the relevant 2016 and 2021 equivalencies below but the discussion in the section relies upon the 2016 framework.

The following three NOC codes have been identified as relevant for employment in this area, are presented below both with the 2016 NOC number and title as well as the equivalent 2021 NOC number(s) and title(s).

- 4168 (2016) – Program officers unique to government equivalent to 41407 (2021) - Program officers unique to government (e.g., intelligence analyst, foreign services officer; intergovernmental affairs officer);
- 2171 (2016) – Information Systems Analysts and Consultants equivalent to 21211 (2021) – Data Scientist, and 21220 (2021) – Cybersecurity specialists (e.g., systems security analyst, computer systems analyst);
- 4311 (2016) – Police Officers (except commissioned) equivalent to 41310 (2021) – Investigators, and 42100 (2021) – Police officers (except commissioned) (e.g., RCMP officer, police constable, police sergeant).

Labour Market Outlook

Occupational Classification: National

The table below displays wages, occupation statistics and employment outlook for occupations relevant to intelligence analysis in Canada.

Wages, Occupational Statistics and Employment Outlook (National)					
2016 NOC Code - Occupation	Median Wage[27]	Employment in 2018	Median Age in 2018	Average Retirement Age in 2018	Outlook to 2028

[27] Average Wages - All occupations = $21.00 based on Working in Canada (2006, Statistics Canada Census)

4168 – Program Officers Unique to Government	$40.00	17,800	45	63	Balance
Wages, Occupational Statistics and Employment Outlook (National)					
2016 NOC Code - Occupation	**Median Wage[31]**	**Employment in 2018**	**Median Age in 2018**	**Average Retirement Age in 2018**	**Outlook to 2028**
2171 – Computer Systems Analyst	$41.03	216,000	43	61	Shortage
4311 – Police Officer	$45.19	77,300	41	58	Balance

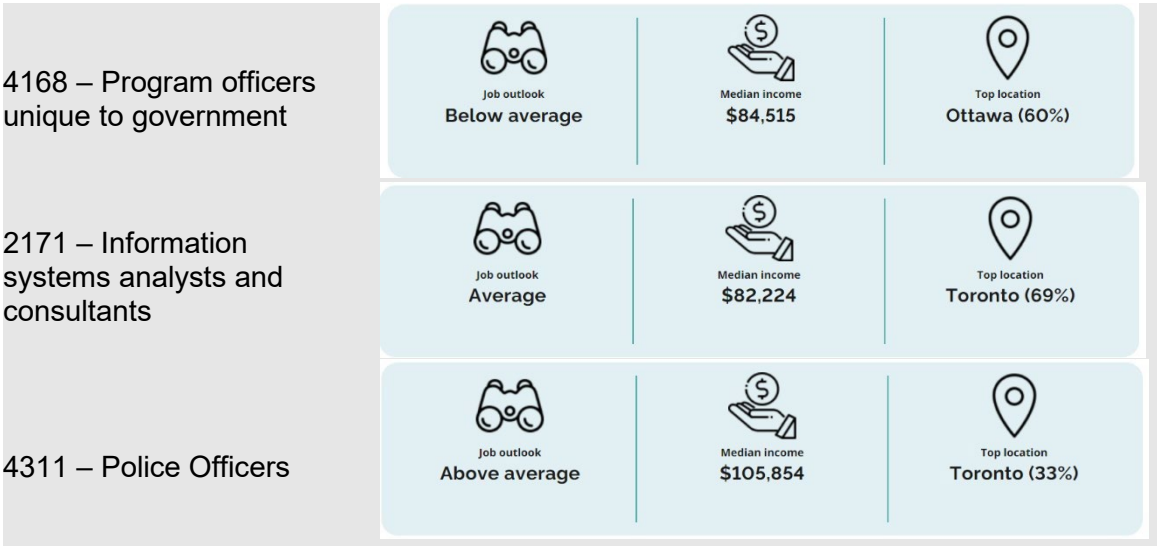
Source: Employment and Social Development Canada www.jobbank.gc.ca/marketreport/outlook

The number of job openings and job seekers are expected to be balanced for all of the relevant occupations except Computer Systems Analysts through to 2028. In addition, the median wage in all of the occupations is high.

Provincial Outlook

Occupational Classification: Provincial

The figure below displays the provincial job outlook rating (2021-2025) and median income.



Source: iaccess Job Profiles, accessed: August 2022

The outlook for relevant occupations is most favourable for Police Officers. Top areas of employment are often located in Toronto; however, Program

Officers Unique to Government (NOC 4168) are highly concentrated in Ottawa. The median income for all three occupations is substantially higher than the Ontario average of $55,121.

Additional labour market information is also available through the Government of Ontario Job Profiles for select NOC codes. The table below presents summary job profile statistics provided by the Government of Ontario for all NOCs that relate to the proposed three- and four-year programs in crime and intelligence analysis.

Provincial Summary Job Profile Statistics					
2016 NOC Code - Occupation	**Males**	**Females**	**Full-Time**	**Part-Time**	**Self-Employed**
4168 – Program Officers Unique to Government	44%	56%	57%	43%	0%
2171 – Computer Systems Analyst	72%	28%	77%	23%	14%
4311 – Police Officer	78%	22%	81%	19%	0%

Source: iaccess Job Profiles, accessed: August 2022

This data demonstrates that the proportion of full-time employment is high. The occupations: Program Officers Unique to Government and Economist are relatively evenly split between males and females. Part time employment is relatively higher among Program Officers Unique to Government.

The table below displays the education level of employees in relevant occupations in Ontario.

Educational Attainment			
Education Level	**4168 – Program Officers Unique to Government**	**2171 – Computer Systems Analyst**	**4311 – Police Officer**
No certificate, diploma or degree:	1%	0%	0%
Secondary (high) school diploma or equivalency certificate	12%	10%	14%
Apprenticeship or trades certificate or diploma	1%	1%	2%

College, CEGEP or other non-university certificate or diploma	15%	23%	46%
Bachelor's degree	37%	42%	31%
Degree in medicine, dentistry, veterinary medicine or optometry	0%	0%	0%
Master's degree	25%	17%	2%
Earned doctorate	3%	1%	0%
Other	5%	6%	4%

Source: MCU Ontario Job Profiles www.services.labour.gov.on.ca/labourmarket

According to the data provided in the table above, Program Officers Unique to Government and Computer Systems Analyst occupations require a diverse range of credentials. Each of the occupations typically require Bachelor's degree with the exception of Police Officers, this position typically requires a College Certificate or Diploma.

The table below presents provincial employment opportunities for each relevant occupation. Within each column, the per centages indicate the distribution of all individuals employed in the corresponding occupation across the select census divisions.

Employment Share by Census Division				
Census Division	**All Occupations**	**4168 – Program Officers Unique to Government**	**2171 – Computer Systems Analyst**	**4311 – Police Officer**
Durham	5%	3%	5%	9%
Toronto	21%	15%	27%	6%
Peel	10%	4%	15%	5%
York	9%	3%	15%	4%
Peterborough	1%	0%	0%	1%
Northumberland	1%	0%	0%	1%
Kawartha Lakes	1%	0%	0%	1%

Source: iaccess Job Profiles, accessed: August 2022

The table above highlights that Toronto has the greatest share of total employment for all occupations except Police Officers. Each of the three

occupations are highly concentrated in Toronto and the surrounding municipalities. This indicates a significant number of individuals working in these occupations in the GTA. One clear outlier is Program Officers Unique to Government which has a very high concentration of employment (55 per cent) in Ottawa, a census division that has a regular employment share of seven per cent.

The table below displays the sectors in which the relevant occupations are employed.

4168 – Program Officers Unique to Government		2171 – Computer Systems Analyst	
93%	Public administration	**43%**	Professional, scientific and technical services
1%	Other services (except public admin)	**20%**	Finance and insurance
1%	Professional, scientific and technical services	**13%**	Public administration
3%	All other industries	**12%**	All other industries

4311 – Police Officer	
99%	Public administration
1%	All other industries

Source: iaccess Job Profiles, accessed June 2022

Occupations relevant to the proposed Honours Bachelor of Crime and Intelligence Analysis program are prevalent in two key industries Public Administration and Professional, Scientific and Technical Services industries.

The table below presents an occupation summary for Ontario and select census divisions for 4168 – Program officers unique to government, 2171 – Information Systems Analysts and Consultants and 4311 – Police Officers. The occupation summary includes the number of jobs available in 2017, as well as the projected number of jobs in 2021.

Occupation Summary (Ontario and Select Census Divisions) – 2020 & 2025					
Region	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**	**Median Hourly Wages**
Ontario	**124,864**	**149,767**	**24,904**	**20%**	**$42.81**
Durham	3,757	4,773	1,016	27%	$42.90
Toronto	42,217	54,087	11,870	28%	$42.08
Peel	14,552	18,623	4,072	28%	$42.15
York	11,211	14,462	3,251	29%	$42.12
Peterborough	422	482	60	14%	$43.16
Northumberland	176	193	17	9%	$44.40
Kawartha Lakes	227	248	21	9%	$44.07

Source: Labour Force Survey, EMSI Analyst 2022.1, accessed: August 2022

By 2025, there are many jobs likely to be created in these three occupations combined, specifically in the Toronto and York census divisions. Durham Region is projected to gain 1,051 jobs over the period, bringing the total number of available jobs in these occupations to 5,026 by 2025. Additionally, these jobs are compensated at rates similar to higher paying urban centres like Toronto, despite being distributed across census areas. It should also be noted that the percentage change signifying growth is highest in Durham, York and Toronto, indicating positive labour market outcomes for job seekers in these areas.

The table below presents self-employment information for the selected NOC codes related to the proposed three- and four-year programs in crime and intelligence analysis. The data below indicates there is limited opportunity for self-employment in the selected NOC codes with the exception of Computer Systems Analyst (NOC 2171).

Self-Employment (Ontario and Select Census Divisions) – 2020			
Region	**4168 – Program Officers Unique to Government**	**2171 – Computer Systems Analyst**	**4311 – Police Officer**
Ontario	**0**	**30,148**	**0**
Durham	0	1,136	0
Toronto	0	11,605	0
Peel	0	3,768	0
York	0	4,448	0
Peterborough	0	91	0

Northumberland	0	77	0
Kawartha Lakes	0	40	0

Source: Labour Force Survey, EMSI Analyst 2022.1, accessed: August 2022

Local Outlook

Occupational Classifications: Region of Durham

The table below presents the number of jobs and hourly wages for all relevant occupations within the Durham census division.

Durham Region Employment Outlook - 2020 & 2025					
2016 NOC	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**	**Median Hourly Wages**
4168 – Program Officers Unique to Government	93	98	5	5%	$46.24
2171 – Computer Systems Analyst	2,782	3,690	908	33%	$41.23
4311 – Police Officer	882	985	103	12%	$48.27
Total	**3,975**	**5,026**	**1,051**	**26%**	**$43.13**

Source: Labour Force Survey, EMSI Analyst 2022.1, accessed: August 2022

The greatest number of jobs expected in the Durham census division will be in the occupations categorized as Computer Systems Analyst.

The table below presents self-employment information for the selected NOC codes related to the proposed three- and four-year programs in crime and intelligence analysis. The data below indicates there is limited opportunity for self-employment in the selected NOC codes with the exception of Computer Systems Analyst (NOC 2171).

Durham Region Self Employment Outlook - 2020 & 2025				
2016 NOC	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**
4168 – Program Officers Unique to Government	0	0	0	0%
2171 – Computer Systems Analyst	1,136	1,151	15	1%
4311 – Police Officer	0	0	0	0%
Durham Region Self Employment Outlook - 2020 & 2025				
2016 NOC	**2020 Jobs**	**2025 Jobs**	**Change**	**% Change**
Total	**1,136**	**1,151**	**15**	**1%**

Industry Summary

The North American Industry Classification System (NAICS) provides a standardized framework for classifying industries present in any given geographic region. Although Intelligence Analysis is often perceived to be concentrated in law enforcement, there are similar occupations throughout a number of other industries. NAICS 9130 – Local, municipal and regional public administration, 5239 – Other financial investment activities and 5419 – Other professional, scientific and technical services have been chosen for inclusion.

The table below presents the number of employers in each industry by census divisions close to Durham Region.

Number of Employers in Related Industries Based on Census Division							
NAICS Code – Occupation	**Durham**	**Toronto**	**York**	**Peel**	**Northumberland**	**Peterborough**	**Kawartha Lakes**
9130 – Local, municipal and regional public administration	16	20	16	21	8	13	4
5239 – Other financial investment activities	129	1,974	652	367	20	46	15
5419 – Other professional, scientific and technical services	210	1,385	612	529	27	39	23
Total	**355**	**3,379**	**1,280**	**917**	**55**	**98**	**42**

Source: Canadian Business Patterns, EMSI Analyst 2022.1, accessed: August 2022

When combining Durham, Peel, York and Toronto it is clear there are a significant number of employers in the GTA in relevant industries.

6. Student Interest

Current Student Interest at Durham College

There is a large pool of graduates for programs from the law enforcement and computer related programs at DC that could choose to continue their education through one or both of the Bachelor of Crime and Intelligence Analysis degree programs. Both student and graduate levels of interest were further explored through surveys.

A total of 114 students across eight programs completed a survey assessing their level of interest in the proposed Honours Bachelor of Crime and Intelligence Analysis program. Of the 114 respondents, 68 per cent are enrolled in the highly related Police Foundations and Protection, Security and Investigations diploma programs at DC.

The majority of students (97 per cent) indicated that they believe offering an Honours Bachelor of Crime and Intelligence Analysis program is a good idea. Furthermore, all respondents from the Protection, Security and Investigations program in particular believe that offering an Honours Bachelor of Crime and Intelligence Analysis program is a good idea.

"This program would be a great way for Police Foundations students to further their future education."

Approximately 53 per cent of students expressed interest in enrolling in the proposed Honours Bachelor of Crime and Intelligence Analysis program. Interest in potential enrolment was highest among students in Police Foundations (67 per cent), General Arts and Science – Forensics (67 per cent) and Protection Security and Investigations (57 per cent). Overall student interest in enrolling in the program increased substantially if students were likely to be granted credit transfer. Eighty-five per cent of the students surveyed indicated that they would be more likely to enrol in the Honours Bachelor of Crime and Intelligence Analysis program if they were granted credit for courses previously completed. Students were also asked when they would be most likely to enrol in the proposed degree program, with the majority (73 per cent) indicating they would likely enrol immediately following graduation from their current program.

Among the students surveyed, a majority (87 per cent) believe that an Honours Bachelor of Crime and Intelligence Analysis degree program would make a difference in the number of potential employment opportunities available. This trend was particularly prevalent among students enrolled in Protection Security and Investigation (96 per cent). Further, 86 per cent of students believe that the type of jobs available to graduates of the proposed Honours Bachelor of Crime and Intelligence Analysis program would be greater.

"Adding this program will allow students a wider variety of career paths to choose from"

Alumni Interest

DC conducted a survey to understand whether there was support among the graduates of highly related programs in pursuing a degree in Crime and Intelligence Analysis. In total, there were 65 responses, from graduates of seven related programs. The majority of respondents (69 per cent) were graduates from the Police Foundations and Protection, Security and Investigations diploma programs.

In total, 63 per cent of the alumni surveyed expressed interest in pursuing an Honours Bachelor of Crime and Intelligence Analysis degree. The alumni most interested in pursuing the proposed degree program were Protection, Security and Investigations graduates (75 per cent). The availability of credit transfer increased the alumni likelihood to enrol in the proposed Honours Bachelor of Crime and Intelligence Analysis degree. In the Protection, Security and Investigations program, 85 per cent of alumni indicated that the availability of credit transfer increased their likelihood to enrol.

Alumni were also asked whether they think offering an Honours Bachelor of Crime and Intelligence Analysis degree program would be a good idea. The majority of alumni (83 per cent) indicated they believed offering the degree would be a good idea. Ninety-two per cent of graduates of the highly related Police Foundations program and all graduates from the Computer Programming and Analysis program believe offering the degree program would be a good idea.

7. Analysis of Competition

The two universities located in the Region of Durham, Trent University and Ontario Tech University (ONTech) offer programs in Criminology that have some connection to the legislative and judicial aspects of the proposed degree, but do not prepare students specifically for the field of crime and intelligence analysis.

Community and Criminal Justice programs are offered at a number of Ontario colleges; however, all of the Ontario College programs, with the exception of one, are focused on public safety and law enforcement. Only one other college currently offers an Honours Bachelor degree program with a clear focus on Crime and Intelligence Analysis, though DC's proposed program would be significantly different. DC's proposed program is multi-disciplinary and applicable to a broad range of sector, whereas the existing program focuses on the work of municipal law enforcement and in particular the task of tactical intelligence gathering.

DC is uniquely situated to offer many experiential learning opportunities to students in both of the proposed Bachelor of Crime and Intelligence Analysis programs, as the college is home to leading applied research centres in Artificial Intelligence (AI) and Cybersecurity.

The AI Hub

The Durham College Hub for Applied Research in Artificial Intelligence for Business Solutions is a facility that specializes in artificial intelligence (AI) for solutions to business needs. By converting research output to practice, the AI Hub creates experiential learning opportunities for DC students, and collaborates with small and medium-sized enterprises in both the private and public sectors. Students in the proposed three- or four-year degree program would be able to leverage the AI Hub to develop the Machine Learning skills often used during the collection of relevant intelligence.

The Centre for Cybersecurity Innovation

The Centre for Cybersecurity Innovation offers current and aspiring cybersecurity professionals, as well as public and private-sector organizations, access to applied research in cybersecurity, micro-credentials and expert-led conferences and seminars. Recently developed cybersecurity solutions supported by the Centre for Cybersecurity Innovation and its students include compliance testing tools, incident response templates and privacy impact assessments. Similar to the AI Hub, students in the proposed three- or four-year degree program would benefit from opportunities to engage in applied research projects and to develop in-demand skills related to cybersecurity.

8. Target Market

The target market for this degree program is direct entry from secondary education. Further this program may be of interest to students with diplomas/advanced diplomas from:

1. Computer Systems Technician (CSTC),
2. Computer Systems Technology (CSTY),
3. Computer Programming (CPPG) and
4. Computer Programming and Analysis (CPA).

9. Operating Revenue and Expenses

The following tables summarize the net contribution for the proposed Bachelor of Crime and Intelligence Analysis, Ontario College Bachelor Degree (three-year) program.

Student Enrolment	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Projected enrolment (Semester 1 Intake, Year 1)	30	30	30	30	30	30	30	30	30
Projected enrolment (Semester 1 Intake, Year 2)	-	26	26	26	26	26	26	26	26
Projected enrolment (Semester 1 Intake, Year 3)	-	-	29	29	29	29	29	29	29
Total Enrolment	**30**	**56**	**85**	**85**	**85**	**85**	**85**	**85**	**85**

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	**149,606**	**248,840**	**382,726**	**394,200**	**406,033**	**418,237**	**430,821**	**443,802**	**457,189**
Total Revenue for Program	**$248,426**	**$462,640**	**$710,915**	**$715,659**	**$720,489**	**$725,318**	**$730,232**	**$735,146**	**$740,145**
Net Surplus (Deficit) for Year - $	**$98,820**	**$213,799**	**$328,189**	**$321,459**	**$314,455**	**$307,081**	**$299,411**	**$291,344**	**$282,955**
Accumulated Surplus / (Deficit)	**$98,820**	**$312,619**	**$640,808**	**$962,267**	**$1,276,722**	**$1,583,803**	**$1,883,214**	**$2,174,558**	**$2,457,513**

DURHAM COLLEGE
SUCCESS MATTERS

New Program Summary

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Net Surplus (Deficit) for Year - %	**40%**	**46%**	**46%**	**45%**	**44%**	**42%**	**41%**	**40%**	**38%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Revenue	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Funding Unit Generated (estimated weight – 0.673)	20.2	37.3	57.0	57.0	57.0	57.0	57.0	57.0	57.0
Grant Value per Funding Unit	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149
Tuition Fee for 2 Semesters ($6100) – Net of TSA	$5,490	$5,545	$5,600	$5,656	$5,713	$5,770	$5,828	$5,886	$5,945
Grant Revenue	$83,726	$154,892	$236,455	$236,455	$236,455	$236,455	$236,455	$236,455	$236,455
Tuition Revenue	164,700	307,748	474,460	479,205	484,034	488,863	493,777	498,691	503,690
Incidental Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Revenue	**$248,426**	**$462,640**	**$710,915**	**$715,659**	**$720,489**	**$725,318**	**$730,232**	**$735,146**	**$740,145**

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Co-ordinator premium	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225
FT Faculty*	0	49,716	102,416	105,488	108,653	111,912	115,270	118,728	122,290

DURHAM COLLEGE
SUCCESS MATTERS

New Program Summary

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
PT Faculty	60,200	89,185	119,418	123,001	126,691	130,492	134,407	138,439	142,592
Faculty Clerical Support	21,261	21,899	45,112	46,466	47,860	49,296	50,774	52,298	53,867
Classroom Support technicians	0	0	0	0	0	0	0	0	0
Commons'/Library Support Technicians	15,095	15,548	16,014	16,494	16,989	17,499	18,024	18,565	19,122
Total Academic Salaries	**102,781**	**182,573**	**289,185**	**297,674**	**306,418**	**315,424**	**324,699**	**334,255**	**344,096**
Employee Benefits FT Faculty	1,587	14,265	27,703	28,487	29,294	30,125	30,981	31,863	32,771
Employee Benefits FT Support	10,907	11,234	18,338	18,888	19,455	20,039	20,639	21,259	21,897
Employee Benefits PT	9,331	13,824	18,510	19,065	19,637	20,226	20,833	21,458	22,102
Professional Development	0	994	2,048	2,110	2,173	2,238	2,305	2,375	2,446
Instructional Costs – Operating	15,000	15,750	16,538	17,364	18,233	19,144	20,101	21,107	22,162
Instructional Costs – Library	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717
Membership Dues	0	0	0	0	0	0	0	0	0
Student Supplies for 2 Semesters	0	0	0	0	0	0	0	0	0
Total Academic Expense	**149,606**	**248,840**	**382,726**	**394,200**	**406,033**	**418,237**	**430,821**	**443,802**	**457,189**

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Expense	**$149,606**	**$248,840**	**$382,726**	**$394,200**	**$406,033**	**$418,237**	**$430,821**	**$443,802**	**$457,189**

* To include Faculty for Placement.

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	**149,606**	**248,840**	**382,726**	**394,200**	**406,033**	**418,237**	**430,821**	**443,802**	**457,189**
Total Revenue for Program	**$248,426**	**$465,681**	**$720,387**	**$730,065**	**$739,938**	**$750,007**	**$760,278**	**$770,755**	**$781,441**
Net Surplus (Deficit) for Year - $	**$98,820**	**$216,841**	**$337,661**	**$335,865**	**$333,904**	**$331,770**	**$329,457**	**$326,952**	**$324,251**
Accumulated Surplus / (Deficit)	**$98,820**	**$315,660**	**$653,321**	**$989,186**	**$1,323,090**	**$1,654,860**	**$1,984,317**	**$2,311,270**	**$2,635,521**
Net Surplus (Deficit) for Year - %	**40%**	**47%**	**47%**	**46%**	**45%**	**44%**	**43%**	**42%**	**41%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

10. Operating Revenue and Expenses

The following tables summarize the net contribution for the proposed Honours Bachelor of Crime and Intelligence Analysis, Ontario College Honours Bachelor Degree (four-year) program.

DURHAM COLLEGE
SUCCESS MATTERS

New Program Summary

Student Enrolment	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Projected enrolment (Semester 1 Intake, Year 1)	30	30	30	30	30	30	30	30	30
Projected enrolment (Semester 1 Intake, Year 2)	-	26	26	26	26	26	26	26	26
Projected enrolment (Semester 1 Intake, Year 3)	-	-	29	29	29	29	29	29	29
Projected enrolment (Semester 1 Intake, Year 4)	-	-	-	27	27	27	27	27	27
Total Enrolment	**30**	**56**	**85**	**112**	**112**	**112**	**112**	**112**	**112**

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	**149,606**	**243,690**	**382,726**	**448,841**	**462,314**	**476,206**	**490,529**	**505,301**	**520,533**
Total Revenue for Program	**$276,334**	**$514,270**	**$789,733**	**$1,047,660**	**$1,054,029**	**$1,060,397**	**$1,066,877**	**$1,073,357**	**$1,079,949**
Net Surplus (Deficit) for Year - $	**$126,728**	**$270,581**	**$407,007**	**$598,819**	**$591,715**	**$584,191**	**$576,348**	**$568,056**	**$559,416**
Accumulated Surplus / (Deficit)	**$126,728**	**$397,309**	**$804,316**	**$1,403,135**	**$1,994,850**	**$2,579,041**	**$3,155,390**	**$3,723,446**	**$4,282,861**

DURHAM COLLEGE
SUCCESS MATTERS

New Program Summary

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Net Surplus (Deficit) for Year - %	**46%**	**53%**	**52%**	**57%**	**56%**	**55%**	**54%**	**53%**	**52%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Revenue	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Funding Unit Generated (estimated weight – 0.897)	26.9	49.8	76.0	100.2	100.2	100.2	100.2	100.2	100.2
Grant Value per Funding Unit	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149	$4,149
Tuition Fee for 2 Semesters ($6100) – Net of TSA	$5,490	$5,545	$5,600	$5,656	$5,713	$5,770	$5,828	$5,886	$5,945
Grant Revenue	$111,634	$206,523	$315,273	$415,744	$415,744	$415,744	$415,744	$415,744	$415,744
Tuition Revenue	164,700	307,748	474,460	631,917	638,285	644,653	651,133	657,613	664,205
Incidental Fees	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Revenue	**$276,334**	**$514,270**	**$789,733**	**$1,047,660**	**$1,054,029**	**$1,060,397**	**$1,066,877**	**$1,073,357**	**$1,079,949**

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Co-ordinator premium	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225	6,225
FT Faculty*	0	49,716	102,416	105,488	108,653	111,912	115,270	118,728	122,290

New Program Summary

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
PT Faculty	60,200	84,726	119,418	170,309	175,418	180,681	186,101	191,684	197,435
Faculty Clerical Support	21,261	21,899	45,112	46,466	47,860	49,296	50,774	52,298	53,867
Classroom Support technicians	0	0	0	0	0	0	0	0	0
Commons'/Library Support Technicians	15,095	15,548	16,014	16,494	16,989	17,499	18,024	18,565	19,122
Total Academic Salaries	**102,781**	**178,114**	**289,185**	**344,982**	**355,145**	**365,613**	**376,394**	**387,500**	**398,939**
Employee Benefits FT Faculty	1,587	14,265	27,703	28,487	29,294	30,125	30,981	31,863	32,771
Employee Benefits FT Support	10,907	11,234	18,338	18,888	19,455	20,039	20,639	21,259	21,897
Employee Benefits PT	9,331	13,132	18,510	26,398	27,190	28,006	28,846	29,711	30,602
Professional Development	0	994	2,048	2,110	2,173	2,238	2,305	2,375	2,446
Instructional Costs – Operating	15,000	15,750	16,538	17,364	18,233	19,144	20,101	21,107	22,162
Instructional Costs – Library	10,000	10,200	10,404	10,612	10,824	11,041	11,262	11,487	11,717
Membership Dues	0	0	0	0	0	0	0	0	0
Student Supplies for 2 Semesters	0	0	0	0	0	0	0	0	0
Total Academic Expense	**149,606**	**243,690**	**382,726**	**448,841**	**462,314**	**476,206**	**490,529**	**505,301**	**520,533**

DURHAM COLLEGE
SUCCESS MATTERS

New Program Summary

Expense Summary	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Expense	**$149,606**	**$243,690**	**$382,726**	**$448,841**	**$462,314**	**$476,206**	**$490,529**	**$505,301**	**$520,533**

* To include Faculty for Placement.

Net Contribution	2025-26 Projection	2026-27 Projection	2027-28 Projection	2028-29 Projection	2029-30 Projection	2030-31 Projection	2031-32 Projection	2032-33 Projection	2033-34 Projection
Total Direct Program Expenses	**149,606**	**243,690**	**382,726**	**448,841**	**462,314**	**476,206**	**490,529**	**505,301**	**520,533**
Total Revenue for Program	**$276,334**	**$517,312**	**$799,205**	**$1,066,657**	**$1,079,675**	**$1,092,954**	**$1,106,498**	**$1,120,313**	**$1,134,405**
Net Surplus (Deficit) for Year - $	**$126,728**	**$273,622**	**$416,479**	**$617,816**	**$617,362**	**$616,748**	**$615,969**	**$615,012**	**$613,872**
Accumulated Surplus / (Deficit)	**$126,728**	**$400,350**	**$816,829**	**$1,434,645**	**$2,052,007**	**$2,668,755**	**$3,284,725**	**$3,899,737**	**$4,513,609**
Net Surplus (Deficit) for Year - %	**46%**	**53%**	**52%**	**58%**	**57%**	**56%**	**56%**	**55%**	**54%**
Target Net Surplus	**N/A**	**Breakeven**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**	**35%**
Capital Requirement	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Public Report

Report Number: BOG-2023-49

To: Board of Governors

From: Dr. Elaine Popp, Executive Vice President, Academic

Date of Report: May 25, 2023

Date of Meeting: June 7, 2023

Subject: Quality Assurance: Comprehensive Program Review

1. Purpose

As part of Durham College's (DC) quality assurance processes, a Comprehensive Program Review (CPR) of each program, or cluster of programs, must be conducted every five to seven years as per DC's Academic Program Review and Renewal – Quality Assurance policy (ACAD-105). This report is intended to provide the Board of Governors with an overview of our compliance with this requirement.

2. Recommendation

This report is bring presented for information only.

3. Background

All Ontario college programs must conform to the Minister's Binding Policy Directive Framework for Programs of Instruction. This framework requires that colleges establish mechanisms for the review of their programs to ensure ongoing quality, relevance and currency. DC is committed to offering quality programming and to ensuring exceptional educational experiences for its students. To achieve these objectives and to meet Ministry requirements, the college has implemented rigorous quality assurance processes including a CPR process. Each postsecondary program undergoes a thorough review and assessment every five to seven years to monitor the quality of the program. This cyclical review determines that the program:

- Aligns with the mission, vision and values of the college, and the college's strategic plan;
- Aligns with the existing program mix at Durham College;
- Remains responsive to economic and societal needs, as well as meets the expectations of students and employers;
- Supports transition to further study, where appropriate;

- Delivers current and innovative pedagogical best practices, experiential and work-integrated learning experiences, and alternate delivery modes, as appropriate, to enhance student success and satisfaction;
- Meets or exceeds the Ministry of Colleges and Universities Program Standards (where they exist);
- Meets or exceeds industry or program accreditation standards, where applicable;
- Fulfills the expectations of the Ontario College Quality Assurance Service (OCQAS), and meets the standards and requirements as outlined in the College Quality Assurance Audit Process (CQAAP); and
- Adheres to and meets the objectives of Durham College's Academic Program Review and Renewal – Quality Assurance policy and procedure (ACAD-105).

The CPR process is thorough and rigorous, using program performance information, Annual Program Review (APR) reports, stakeholder feedback and external assessment (where relevant), and collaborative self-assessment to analyze the program. Through critical analysis and reflection by the Program Review Team, a final report is developed, with the intention of providing evidence of areas of strength, opportunity and improvement through a set of recommendations in an action plan. After the final report is approved by the Executive Deans and the Executive Vice President, Academic, highlights of the CPR are presented to Durham College's Academic Council. The final report is posted to Program Portfolios (on the Durham College intranet, ICE). The Manager, Academic Quality Assurance supports the process and tracks completion of the recommendations identified in the action plan.

4. Discussion/Options

4.1 Completed Reviews

The list of programs below began the CPR process in winter 2022. Following submission of the final report and recommendations in June 2023, the programs will present an analysis of their data and action items for continuous improvement to Academic Council for information sharing during the 2023-2024 academic year.

Dr. Kevin Baker, Faculty of Business
Accounting – Business (& Ontario Tech U Transfer) (Ontario College Diploma)
Accounting – Business Administration (& Coop) (Ontario College Advanced Diploma)

Dr. Rebecca Milburn, Faculty of Hospitality and Horticultural Science
Horticulture Technician (Ontario College Diploma)

Dr. Mojgan Rezvani, Faculty of Health Sciences
Communicative Disorders Assistant (Ontario College Graduate Certificate)
Emergency Services Fundamentals (Ontario College Certificate)

Barry Waite, Faculty of Media, Art and Design
PR and Strategic Communications (Ontario College Advanced Diploma)

Ralph Hofmann, Faculty of Social and Community Services
Court Support Services (Ontario College Certificate)
Firefighter – Pre-Service, Education and Training (Ontario College Certificate)
Social Service Worker (Ontario College Diploma)

Tony Doyle, Faculty of Science, Engineering & Information Technology
Mechanical Engineering Technician (Ontario College Diploma)

Dr. Rebecca Milburn, Faculty of Skilled Trades and Apprenticeship
Welding Apprenticeship (Ontario College Certificate)
Welding Engineering Technician (Ontario College Diploma)

Dr. Jean Choi, Faculty of Liberal Studies & Professional and Part-time Learning
Baccalaureate Degree Non-Core Breadth Capacity Review
Teaching & Training Adults (Durham College Certificate)
Occupational Health Nursing (Durham College Certificate)

4.2 In–Progress Reviews

The list of programs below began the CPR process in early spring 2023. Following submission of the final report and recommendations in June 2024, the programs will present an analysis of their data and action items for continuous improvement to Academic Council for information sharing during the 2024-2025 academic year.

Dr. Kevin Baker, Faculty of Business
Finance – Business (Ontario College Diploma)
Finance – Business Administration (Ontario College Advanced Diploma)

Dr. Mojgan Rezvani, Faculty of Health Sciences
Massage Therapy (Ontario College Advanced Diploma)
Personal Support Worker (Ontario College Certificate)
Pre-Health Sciences Pathway – Certificate & Diploma (Ontario College Certificate)
Pre-Health Sciences Pathway – Advanced Diplomas & Degrees (Ontario College Certificate)

Barry Waite, Faculty of Media, Art and Design
Advertising – Digital Media Management (Ontario College Graduate Certificate)
Photography (Ontario College Diploma)
Video Production (Ontario College Diploma)

Ralph Hoffman, Faculty of Social and Community Services
Developmental Services Worker (Ontario College Diploma)
Paralegal (Ontario College Diploma)
Paralegal (Ontario College Graduate Certificate)

Dr. Rebecca Milburn, Faculty of Skilled Trades and Apprenticeship
Electrical Techniques (Ontario College Certificate)
Electrical Engineering Technician (Ontario College Diploma)
Mechanical Technician – Elevating Devices (Ontario College Diploma)

Dr. Jean Choi, Faculty of Liberal Studies & Professional and Part-time Learning
Spanish (Recognition of Achievement)
Thanatology (Durham College Certificate)

5. Financial/Human Resource Implications

Recommendations resulting from the CPR process that have financial implications, such as the hiring of additional faculty, the acquisition of instructional capital, and/or the refurbishing/retrofitting of teaching space are presented for approval through the annual budget process.

6. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

7. Implications for Ontario Tech University

Pathway opportunities are considered for each program as it undergoes the CPR process. Communication with the appropriate Ontario Tech University counterpart is an important aspect of program changes which affect pathways.

8. Relationship to the Strategic Plan/Business Plan/Academic Plan

This report relates to the “Our Students” and “Our Work” pillars of the Strategic Plan. The CPRs support to educate and inspire students to realize success in their careers and communities, as well as enabling us to be a leader in teaching and learning while responsibly managing resources, ensuring good governance and strategically investing in the future.

Goal one of the Academic Plan is addressed; the CPR supports exceptional quality in our academic programs by meeting the objective to develop, launch, review and renew high-quality programs that reflect evolving societal and workforce needs.

Public Report

Report Number: BOG-2023-50

To: Board of Governors

From: Dr. Elaine Popp, Executive Vice President, Academic

Date of Report: May 25, 2023

Date of Meeting: June 7, 2023

Subject: 2023-2028 New Program Development Plan

1. Purpose

The addition of new academic programs ensures that our program offerings remain responsive to student demand and labour market needs. The 2023-2028 New Program Development Five-Year Plan (NPD Five-Year Plan) is used for academic planning purposes. As programs are considered for addition to our college offerings, we ensure the impacts of future resource requirements such as new and/or renovated academic space, IT assets, academic equipment and other capital needs, faculty and support staff needs, and library resources are captured and documented.

2. Recommendation

This report is being presented for information only.

3. Background

Ensuring sustainability of its current program mix is an essential strategic exercise for Durham College. Despite changes in the Ministry's core operating funding, the development of new high-quality programs remains a goal in our strategic plan, annual business plan and academic plan.

Durham College's first NPD Five-Year Plan was introduced in the fall of 2015 and was presented to the Board of Governors in April 2016. Since then, the NPD Five-Year Plan has been presented to the Board of Governors annually at the June meeting.

Criteria for selecting programs include the analysis of student interest, labour market need, community, industry and stakeholder recommendations, faculty complement and alignment with current program mix. With PEQAB and MCU announcing support for College development and delivery of three-year Bachelor's degrees, opportunities for expanded offerings are being capitalized. The NPD Five-Year Plan is considered fluid and therefore subject to change based on the factors noted above.

Various internal quality assurance mechanisms are implemented to review and approve new program proposals to determine effectiveness and sustainability including:

- The development of a concept paper to determine the scope of the new program and conduct preliminary discussions regarding the purpose and strategic fit of the program;
- The development of an environmental scan by the Office of Research Services, Innovation and Entrepreneurship (ORSIE);
- Review and approval by the Executive Vice President, Academic (EVPA) for development;
- Development of the program elements including vocational learning outcomes, program description, program of study, proposed budget, and the strategic fit of the program;
- Review and recommendation by the Program Proposal Review Committee (PPRC), a cross-representative college committee;
- Review of PPRC recommendation by the EVPA and approval for the continuation of development;
- Review and approval by the President;
- Review and approval by the Board of Governors.

External quality assurance bodies ensure the program meets the standards identified by either the Ontario College Quality Assurance Service (OCQAS) for validation of programs of instruction for credentials from Ontario College Certificates to Ontario College Graduate Certificates or by the Postsecondary Education Quality Assessment Board (PEQAB) for baccalaureate degrees in the process of seeking Ministerial consent. Once external quality assurance processes are successfully achieved, Ministry funded credentials then seek program funding approval by the Ministry of Colleges and Universities.

4. Discussion/Options

The NPD Five-Year Plan is detailed below.

4.1 New Program Development Five-year Plan 2023-2024

Honours Bachelor of Community Mental Health (Four-Year Honours Baccalaureate Degree)
Ralph Hofmann, Faculty of Social & Community Services

Honours Bachelor of Paralegal (Four-Year Honours Baccalaureate Degree)
Ralph Hofmann, Faculty of Social & Community Services

Fire Protection and Technology (Ontario College Advanced Diploma)
Ralph Hofmann, Faculty of Social & Community Services

Recreation Therapy (Ontario College Diploma)
Ralph Hofmann, Faculty of Social & Community Services

Cloud Computing (Ontario College Graduate Certificate)
Tony Doyle, Faculty of Science, Engineering & Information Technology

Science and Engineering Fundamentals (Ontario College Certificate)
Tony Doyle, Faculty of Science, Engineering & Information Technology

4.2 New Program Development Five-year Plan 2024-2025

Bachelor of Paralegal (Three-Year Baccalaureate Degree)
Ralph Hofmann, Faculty of Social & Community Services

Law Clerk (Ontario College Diploma)
Ralph Hofmann, Faculty of Social & Community Services

Nutrition and Food Service Management (Ontario College Diploma)
Dr. Rebecca Milburn, Faculty of Hospitality and Horticultural Science

Supply Chain Management – Global Context (Two-year Ontario College Graduate Certificate)
Dr. Kevin Baker, Faculty of Business

Project Management (Two-year Ontario College Graduate Certificate)
Dr. Kevin Baker, Faculty of Business

International Business Management (Two-year Ontario College Graduate Certificate)
Dr. Kevin Baker, Faculty of Business

Human Resources Management (Two-year Ontario College Graduate Certificate)
Dr. Kevin Baker, Faculty of Business

Professional Selling and New Business Development (Two-year Ontario College Graduate Certificate)
Dr. Kevin Baker, Faculty of Business

Professional Selling and New Business Development (One-year Ontario College Graduate Certificate)
Dr. Kevin Baker, Faculty of Business

Clinical Bioinformatics (Ontario College Graduate Certificate)
Dr. Mojgan Rezvani, Faculty of Health Sciences

Public Relations (Ontario College Graduate Certificate)
Barry Waite, Faculty of Media, Art and Design

4.3 New Program Development Five-year Plan 2025-2026

Honours Bachelor of Crime and Intelligence Analysis (Four-Year Honours Baccalaureate Degree)
Ralph Hofmann, Faculty of Social & Community Services

Bachelor of Crime and Intelligence Analysis (Three-Year Baccalaureate Degree)
Ralph Hofmann, Faculty of Social & Community Services

Bachelor of Human Resources (Three-Year Baccalaureate Degree)
Dr. Kevin Baker, Faculty of Business

Bachelor of Construction Management (Three-Year Baccalaureate Degree)
Tony Doyle, Faculty of Science, Engineering and Information Technology

Bachelor of Cybersecurity (Three-Year Baccalaureate Degree)
Tony Doyle, Faculty of Science, Engineering and Information Technology

Interior Decorating (Ontario College Diploma)
Barry Waite, Faculty of Media, Art and Design

Respiratory Therapy (Ontario College Advanced Diploma)
Dr. Mojgan Rezvani, Faculty of Health Sciences

Electrical Vehicle (Ontario College Graduate Certificate)
Dr. Rebecca Milburn, Faculty of Skilled Trades and Apprenticeship

4.4 New Program Development Five-year Plan 2026-2027

Honours Bachelor of Science – Biomedical Sciences (Four-Year Honours Baccalaureate Degree)
Dr. Mojgan Rezvani, Faculty of Health Sciences

Bachelor of Science – Biomedical Sciences (Three-Year Baccalaureate Degree)
Dr. Mojgan Rezvani, Faculty of Health Sciences

Bachelor of Business Administration (Three-Year Baccalaureate Degree)
Dr. Kevin Baker, Faculty of Business

Bachelor of Interior Design (Three-Year Baccalaureate Degree)
Barry Waite, Faculty of Media, Art and Design

Entrepreneurship Management (Ontario College Graduate Certificate)
Dr. Kevin Baker, Faculty of Business

Pipefitter – Apprenticeship (Ontario College Certificate)
Dr. Rebecca Milburn, Faculty of Skilled Trades & Apprenticeship

Paralegal Studies in Family Law (Durham College Certificate)
Ralph Hofmann, Faculty of Social & Community Services

4.5 New Program Development Five-year Plan 2027-2028

Veterinary Technician (Ontario College Diploma)
Dr. Mojgan Rezvani, Faculty of Health Science

Emergency Management and Business Continuity (Ontario College Graduate Certificate)
Ralph Hofmann, Faculty of Social & Community Services

Clinical Kinesiology (Ontario College Graduate Certificate)
Dr. Mojgan Rezvani, Faculty of Health Sciences

Food Security (Ontario College Graduate Certificate)
Dr. Rebecca Milburn, Faculty of Hospitality and Horticultural Science

5. Financial/Human Resource Implications

NPD submissions have financial and human resource implications, including faculty and staff hiring, the acquisition of instructional capital, and/or the refurbishing/ retrofitting of instructional space. NPD submission requests for credentials ranging from Durham College Certificates to Honours Baccalaureate degrees are presented for the Board of Governors' approval during standard meetings throughout the academic year.

6. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

7. Implications for Ontario Tech University

Implications for Ontario Tech University are an important consideration in the development of the annual NPD Five-Year Plan. Pathway opportunities are considered initially and throughout the development process of each new program.

8. Relationship to the Strategic Plan/Business Plan/Academic Plan

The planning and implementation of the 2023-2028 NPD Five-Year Plan falls within the 'Our Students' pillar in the Strategic Plan and the Business Plan, addressing the goal to educate and inspire students to realize success in their careers and communities. This report further addresses the objective to deliver high-quality programs that reflect labour market needs and are responsive to emerging economies as well as the objective to advocate for the necessity and value of lifelong learning.

This report also relates to the 'Our Work' pillar of the Strategic Plan, and the goal to be a leader in teaching and learning while responsibly managing resources, ensuring good governance and strategically investing in the future. This report further addresses the objective to lead the development of transformational programs, services and systems that enhance the student experience.

This report addresses the first goal of the Academic Plan to ensure exceptional quality in our academic programs by meeting the objective to develop, launch, review and renew high-quality programs that reflect evolving societal and workforce needs.

Public Report

Report Number: BOG-2023-61

To: Board of Governors

From: Indigenization Council

Date of Report: May 24, 2023

Date of Meeting: June 7, 2023

Subject: Indigenization Efforts at Durham College

1. Purpose

This report serves as an update to the Board of Governors on the progress of the work of the Indigenization Council working groups in their efforts to satisfy the requirements of the Indigenous Education Protocol.

2. Recommendation

This report is being presented for information only.

3. Background

On October 16, 2015, Durham College (DC) and members of the Indigenous community signed the Indigenous Education Protocol with Colleges and Institutes Canada (CiCan). This protocol highlights the importance of structures and approaches required to address Indigenous Peoples' learning needs and support self-determination and socio-economic development of Indigenous communities as well as complement the recommendations outlined in the Truth and Reconciliation Commission's call to action.

In addition to becoming a signatory of the Indigenous Education Protocol, DC drafted the organizational Indigenization statement along with its seven principles, as outlined below:

Indigenization statement
Durham College (DC) recognizes that Indigenization is a continuous process requiring each member of our campus community to actively commit to reconciliation, with the goal of building respectful, reciprocal relationships that will contribute to better educational outcomes for all students. Inherent among this commitment is our pledge to uphold the seven principles of the Indigenous Education Protocol for Colleges and Institutes, of which DC is a proud signatory.

The Seven Principles are:

1. Commit to making Indigenous education a priority.
2. Ensure governance structures recognize and respect Indigenous peoples.
3. Implement intellectual and cultural traditions of Indigenous peoples through curriculum and learning approaches relevant to learners and communities.
4. Support students and employees to increase understanding and reciprocity among Indigenous and non-Indigenous peoples.
5. Commit to increasing the number of Indigenous employees with ongoing appointments throughout the institution, including Indigenous senior administrators.
6. Establish Indigenous-centred holistic services and learning environments for learner success.
7. Build relationships and be accountable to Indigenous communities in support of self-determination through education, training and applied research.

In December 2022, the Indigenization Council, led by the First Peoples Indigenous Centre (FPIC) employees, hosted a planning meeting to review objectives from the Indigenous Education Protocol while incorporating recommendations from the Durham College Indigenous Advisory Circle. It was determined that the objectives for the Indigenization Council would require a realignment of the working groups.

In February 2023, the working group chairs were reassigned where necessary and a new objectives document was provided to both the Durham College Indigenization Council and the Durham College Indigenous Advisory Circle.

To ensure DC continues to strive to achieve the seven principles outlined in the Indigenization Statement, the Indigenization Council now consists of 4 working groups including:

- Communications and Events
- Curriculum Development and Academic Upgrading
- Employee Recruitment, Onboarding and Professional Development
- Office of the Registrar

4. Discussion/Options

The following provides an overview of the work conducted by the Indigenization Council working groups between 2022 and 2023.

Communications and Events

4.1 Communications

4.1.1 Land Acknowledgements

Ten Land Acknowledgement workshops were facilitated by FPIC to support DC students, employees, governors and community members. These workshops supported individuals in developing their own personalized Land Acknowledgements.

Athletics and Recreation has incorporated Land Acknowledgements before all varsity competitions and events.

4.1.2 Flag Project

Additional flag poles were installed at the Oshawa and Whitby campuses so that Mississaugas of Scugog Island First Nation flags could be flown all year round.

To acknowledge important days of significance on campus, two Every Child Matters flags were purchased with the guidance from FPIC employees. These flags will be flown at the Oshawa and Whitby campuses on September 30 every year. The Flag policy was updated to acknowledge these two steps towards Indigenization.

4.1.3 Days of Significance Calendar

Indigenous days of significance added to Durham College calendar to acknowledge, recognize where appropriate, and support awareness across the campus.

4.2 Events

4.1.4 Student Engagement

Varsity Athletics began requiring varsity captains to complete Indigenous Histories and Reconciliation modules as part of their team leadership responsibilities.

Durham College students and the campus community were invited to attend an event in the Global Classroom where Pamela Post delivered a keynote presentation on “Indigenous (mis)Representation in the Media”.

Indigenous Voices in Durham Journalism Panel Project in the Faculty of Media Art and Design allowed students to be mentored by a self-identified Indigenous work study student to expand their knowledge and understanding Indigenous perspectives.

4.1.5 Celebration of Indigenous Graduates

In June 2022, Indigenous graduating students were invited to attend a special luncheon and ceremony in the First Peoples Indigenous Centre to celebrate their accomplishments. Students were gifted with a traditional Smudging Kit.

4.1.6 Convocation

In June 2022, the first and last convocation ceremonies of the week featured a Big Drum performance by John Snake and drummers from the Mississaugas of Scugog Island First Nation, welcoming graduates and guests as they entered the building.

The opening song was performed to offer positive thoughts as DC honoured all graduates and their achievements, and the closing performance symbolized safe travels for graduates as they move on to new endeavours.

The national anthem video used at all ceremonies was updated in the spirit of reconciliation for the spring convocation ceremonies.

4.1.7 Orange Shirt Day and National Day for Truth and Reconciliation

DC recognized the second Orange Shirt Day and the National Day for Truth and Reconciliation by hosting a number of events on the day of and leading up to September 30 to help foster understanding and a commitment to change.

These events included a book club discussion of Phyllis Webstad's "Beyond the Orange Shirt Story," and a trip to the Heber Downs conservation area, where Traditional Medicine Keeper Joseph Pitawanakwat guided participants through an exploratory walk to learn about edible plant medicines.

Elder Dr. Shirley Williams offered a Teaching to those gathered in the Naanaagide'endamowin Courtyard about the significance of Orange Shirt Day to institutions. Following Elder Shirley's Teaching, two students from the Journalism program shared their own Truth and Reconciliation Commission (TRC) pledges.

In collaboration with the Durham College Student Association, “Every Child Matters” lawn signs were made available to all ceremony attendees.

4.1.8 Naanaagide’endamowin Courtyard Updates

A special naming stone was installed in the courtyard, honouring the first National Day of Truth and Reconciliation, held on September 30, 2021. The naming stone was installed in Autumn 2022. In Medicine Wheel teachings, the heart is represented in the west. Noting that the heart helps us to evaluate, appreciate and enjoy our lives. By nurturing our hearts, we are able to create balance in our lives. With this in mind, the west side of the courtyard was chosen. It will welcome people to the space and encourage introspection as visitors seek knowledge by visiting the locations around the space to learn more about Truth and Reconciliation to gain understanding and inner strength through their reflections.

Six QR coded signs were installed in the courtyard along the pathways and seating areas to encourage visitors to pause and reflect. The signs link to information about Land Acknowledgements, the Indigenous Histories Modules, 13 Moons, Sacred Medicines, the Weeping Willow, and upcoming events at the FPIC. A seventh QR code sign is located in FPIC to introduce visitors to the Naanaagide’endamowin space.

Curriculum Development and Academic Upgrading

4.3 Curriculum Specialist

Approval received to hire an Indigenous curriculum specialist for fiscal year 2023-2024. There are plans to post the position by fall 2023.

4.4 Land Acknowledgement Widget

Plans are underway for incorporating a Land Acknowledgement widget on the landing page of the DC Connect, the college’s Learning Management System (LMS).

4.5 General Education Initiatives

Faculty of Liberal Studies offering four First Nations, Metis and Inuit general education courses to 35 programs across five Faculties to 1,990 students during the academic year. Plans are underway to refresh the courses.

4.6 Degree Programs

Plans are in the works for the creation of an Indigenous breadth elective course for students in degree programs.

Employee Recruitment, Onboarding and Professional Development

4.7 Employee Recruitment

Human Resources has researched recruitment practices that promote inclusivity in job postings and the interview process. HR has identified additional locations to promote job opportunities to broaden our applicant pool, including Indigenous communities.

In May 2023, HR launched the enhanced Careers at DC webpage. The site now includes information on resources, supports and benefits available to employees. HR also launched a new recruitment page on LinkedIn to promote job opportunities and highlight the benefits of working at DC.

4.8 Professional Development and Onboarding

HR and the FPIC have collaborated on the offering of Land Acknowledge workshops for employees through the professional development portal. The DC land acknowledgement is reviewed and employees learn how the can create their own acknowledgement.

During New Employee Orientations, employees are introduced to DC's Land Acknowledgement and encouraged to complete the Indigenous Histories and Reconciliation Modules.

Office of the Registrar

4.9 Allocating Seats to Indigenous Applicants

The Office of the Registrar, in collaboration with the Faculty of Social and Community Services as well as the Faculty of Health Sciences, is working on a pilot to allocate 10 seats within selected programs to Indigenous applicants for the Winter 2024 semester.

The process will begin with applicants identifying themselves as Indigenous persons on their Ontario College Application System (OCAS) application, as usual. When Durham College (DC) receives applications to the selected programs prior to the equal consideration date, Indigenous applications will be assessed first. Those who meet minimum program requirements will be approved (up to the maximum of 10 per program).

The pilot will focus on the following three programs: Nursing, Social Service Worker, and Early Childhood Education. Upon the conclusion of the Winter registration cycle, the outcomes of this pilot will be assessed and any modifications made in anticipation of a broader rollout in subsequent intakes.

4.10 Pre-Apprenticeship Training

In February 2023, DC successfully secured funding to offer the Electrician - Construction and Maintenance for Indigenous Peoples pre-apprenticeship training. This training provides Indigenous learners the opportunity to participate in technical and employability training needed to be job ready at no cost.

5. Financial/Human Resource Implications

There are no financial or human resources implications.

6. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

7. Implications for Ontario Tech University

There are no implications for Ontario Tech University.

8. Relationship to the Strategic Plan/Business Plan

This report relates to the accountability to all the pillars of the Strategic plan as the focus of this group's work impacts our students, our community, our work and our people.

This report reflects the initiatives that teams have been working on that help the College meet its goas in the Business Plan throughout all pillars.

Public Report

Report Number: BOG-2023-51

To: Board of Governors

From: Linda Flynn, Executive Director, Durham College Foundation

Date of Report: May 29, 2023

Date of Meeting: June 7, 2023

Subject: Durham College Foundation Annual Report

1. Purpose

The purpose of this report is to highlight the major activities of the Durham College Foundation during the 2021/22 and 2022/23 Fiscal Years.

2. Recommendation

This report is being presented for information only.

3. Background

As per the Memorandum of Understanding between Durham College and the Durham College Foundation dated February 2017, the Foundation shall make a report annually to the College regarding the affairs of the Foundation.

The Durham College Foundation Board meets quarterly. Its primary functions are to provide oversight to the DC Foundation endowment that provides scholarships and bursaries for students and to capital fundraising efforts as required.

This report covers two years spanning June 2021 to June 2023.

Members of the Board of Directors were as follows:

2021-22	2022-23
Carla Carmichael, *President*	Tom Worden, *President*
Tom Worden, *Vice-President*	Chris Vale, *Vice-President*
Barbara MacCheyne*, *Treasurer*	Abbi Longo*, *Secretary*
Mary Weller*, *Secretary*	Barbara MacCheyne*, *Treasurer*
Garry Cubitt, *Chair, Governance Committee*	Garry Cubitt, *Chair, Governance Committee*
Lee Terry *Chair, Investment Committee*	Lee Terry, *Chair Investment Committee*
Cameron Ackerblade, *DCAA*	Cameron Ackerblade, DCAA
Brandon Bird	Brandon Bird
Kevin Kinsella	Kayte Black
Don Lovisa*	Gail Johnson-Morris, *Vice-Chair BOG*
Gary Rose, *Vice Chair, BOG*	Don Lovisa
Daniel Stober	Daniel Stober
Chris Vale	Helen Viveiros
Jennifer Wright	Jennifer Wright
Linda Flynn*, *Executive Director*	Linda Flynn, *Executive Director*

4. Discussion/Options

Fundraising Revenue

April 1, 2021-March 31, 2023

Revenue Allocation

FY	Student Awards		Capital		Other*	Total
	Total	Avg Gift	Total	Avg Gift		
2022-23	$630,692	$5,437	$4,025,622	$15,306	$259,574	$4,915,888
2021-22	$639,416	$7,104	$9,690,774	$29,186	$419,766	$10,415,870
2020-21	$463,710	$4,881	$2,505,585	$7,830	$95,606	$3,064,901
2019-20	$953,051	$10,846	$3,738,757	$16,431	$588,161	$5,279,969

**Includes funds that flow through the Foundation such as faculty/athletic donations or in-kind/sponsorship*

Revenue Type

FY	Cash	Pledge Payments	GIK	Total	New Pledges
2022-23	**$447,494**	**$3,311,886**		**$3,759,380**	**$1,1506,508**
2021-22	**$252,098**	**$5,379,056**	**$23,050**	**$5,631,154**	**$10,749,956**
2020-21	**$194,750**	**$1,847,713**	**$67,600**	**$2,042,463**	**$853,320**
2019-20	**$801,596**	**$$2,227,136**		**$3,028,732**	**$2,228,704**

2021-22 was a record-breaking year with an unprecedented $10,749,956 raised in new pledges and more than $5.5 million in cash and pledge payments.

We were very pleased to wrap up the 2022-23 fiscal year having raised almost $5,000,000 in cash and pledges. A highlight was the announcement of the Schulich Builders program, which will provide 10 skilled trades students with $20,000 annually to support their post-secondary education.

While the total raised is significantly lower than the year before, it is important to understand that 2021-22 was an anomaly. In 2021-22 we had a keen focus on the majority of new pledges for the Building for Skills campaign (including $2,000,000 from OPG), ongoing and new pledges from the Weston Family Foundation, and a $5,000,000 commitment from The Barrett Foundation.

The successful completion of the Building for Skills campaign meant fewer new pledges and The Weston Family Foundation saw a “changing of the guard” and has directed its priorities away from education. The wind-down of Weston funds has impacted revenue allocations for both student awards and capital.

Governance

The Durham College Foundation as well as the two standing committees: Investment and Governance Nominating meet quarterly to conduct the business of the Foundation.

The Investment Committee revised their meeting structure allowing more time to allow for strategic conversations related to managing the current wealth advisors ensuring maximum gains while navigating ongoing volatility.

The Memorandum of Understanding, which was due for renewal this year prompted The Governance Committee to focus on the purpose of the Foundation and the implications of the Ministry of College and University's Binding Policy Directive – 2.0 Finance and Administration – Entrepreneurial Activities.

Foundation President Tom Worden met with the Governance Committee of the Board of Governors and the full Board to share the current structure and accountabilities. In addition, Foundation Governance Committee members conducted interviews with all Foundation Board members and several conversations occurred with the Governance Committee and the full Board of Directors. A final report detailing two options has been compiled and the question will be called at the Foundation AGM in June.

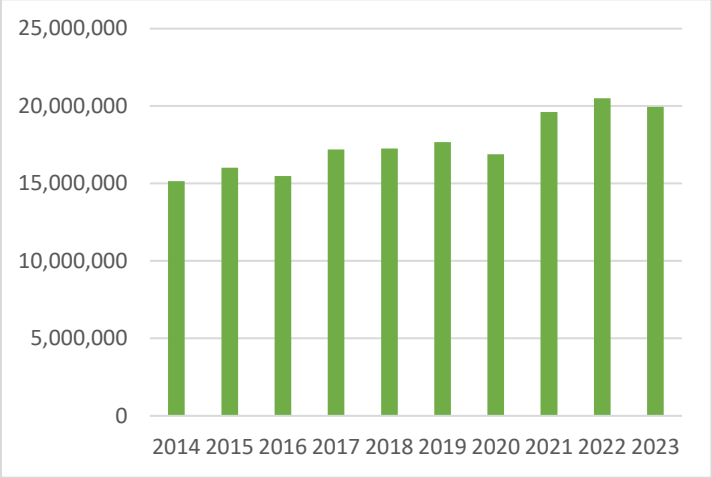
Following the decision, a report and possibly a new Memorandum of Agreement will be brought forward to the Board of Governors in the Fall.

5. Financial/Human Resource Implications

From an investment perspective, the Market Value of the Foundation Endowment fund at March 31, 2022 was a value of $20,505,118, an increase of $1,242,656 from the opening balance on April 1, 2021.

Unfortunately, this growth did not continue in 2022-23 when the portfolio experienced a decline of 373,223 or 1.8% due to significant market volatility. Although the loss in concerning, the Foundation has always been prudent in ensuring a low-risk investment policy and distribution of funds that ensure protection of original investment.

Ten Year History:



6. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

7. Implications for Ontario Tech University

There are no implications for Ontario Tech University.

8. Relationship to the Strategic Plan/Business Plan

The report ties into the following two areas in the Durham College Strategic Plan:

Our Students: Develop and create opportunities to build student resilience, competence, personal capacity and life enhancing skills.

Our Business: Maximize resources and processes in all aspects of our business.

Public Report

Report Number: BOG-2023-52

To: Board of Governors

From: Don Lovisa, President

Date of Report: May 31, 2023

Date of Meeting: June 7, 2023

Subject: President's Report – May to June 2023

Purpose

The purpose of this report is to provide an update on the President's activities and significant college initiatives from May 2023 to June 2023.

1. Our Students

Durham College wins big at Ontario Community Newspaper Association awards

The Journalism – Mass Media program was a big winner at the Ontario Community Newspaper Association's (OCNA) Better Newspapers Competition on April 14.

The event, which was held virtually, recognized the best in community journalism over the last year. The Durham College (DC) Chronicle took home top honours in 'General Excellence' among college and university newspapers for the third consecutive year. While all the students and faculty members who contributed to the Chronicle during the 2021-22 academic year share in that award, two members of the 2022 graduating class received special recognition.

Joey Cole won first in 'Student News Writing' for a piece on the local community's support for Ukraine. In 'Student Photography', Corrado Distefano earned second place for an action shot of the Ontario Tech University men's hockey team.

Since graduating, both students have benefitted from the lessons they learned at DC. Cole has discovered a surprising talent for

video editing, which she puts to good use at the Oshawa Public Library. Distefano is continuing his education at Ontario Tech in Communication and Digital Media Studies, with an eye toward working in public relations for a sports team.

Wherever their careers take them, their time at the Chronicle has prepared them to meet any challenge.

Students collect medals at 2023 Skills Ontario Competition

Students from across the province put their abilities to the test at the 2023 Skills Ontario Competition this week, which was held over the course of three days at the Toronto Congress Centre.

Thousands of elementary, secondary and post-secondary students took part in the event, including 29 DC students who competed in 14 categories at the competition. A wide range of disciplines were represented, from aesthetics and culinary arts to auto service and carpentry. In each category, they brought all of their skills and experience to bear on the different challenges set before them.

On Wednesday, the attendees and their supporters filled the convention hall to capacity for the awards ceremony. The atmosphere was electric as the medals for each category were handed out, with five of our DC students earning spots on the podium.

DC's winning students were:

- Abigayle Hamilton and Emma Pace – **Gold**, Horticulture and Landscape (Team of 2)
- John Orecchio – **Bronze**, Industrial Mechanic
- Brandon Webster – **Gold**, Metal Fabricator Fitter
- Nicole Crossley – **Bronze**, Photography

Competing at the event gave all of the students a preview of the potential future they could have in their respective trades, while proving they have the skills necessary to succeed at the highest level.

Durham College brings delicious treats to Queen's Park

Students and faculty members recently showcased their culinary mastery at College Day at Queen's Park.

Representatives from DC's Faculty of Hospitality and Horticultural Science traveled to Toronto for Colleges Ontario's annual showcase of the province's post-secondary institutions. This year's event focused on culinary innovation, and two of DC's successful (and delicious) applied research projects were on display.

In collaboration with the Centre for Craft Brewing Innovation (CCBI), two Horticulture – Food and Farming students presented Lucky Farmer Honey Ginger Ale. Elliot Berthelet and Danielle Dowd developed the beer as part of their Artisan Product Development course.

With that in mind, they used honey from the DC apiary and ginger from the greenhouse.

The beer was sampled by many at the event, including representatives from other colleges and members of provincial parliament, and it received rave reviews. In addition to the beer, the Culinary Management program's champlain cheese was popular with hungry guests. The product of a happy accident, it was first created when students missed a step in the cheese-making process. The result was a hard, parmesan-style cheese that ages quickly and can be ready for market in two to three months. Parmesan can take as long as two years to be market ready, so the applications were obvious and exciting.

It was a great day for showcasing some of the innovative work that's being done at DC's Whitby campus.

Durham College student takes home gold in 3D Design at Ubisoft Toronto NEXT competition

DC Game-Art student, Melissa Friesen, beat out competitors from colleges and universities across Ontario to take home first place in the 3D Design category at Ubisoft Toronto NEXT 2023 competition. For the past decade, this annual event has cast a spotlight on student talent in Ontario, providing a platform to showcase their video game development skills and help spark career connections in the growing industry.

On May 12, more than 200 students competed for a paid internship at Ubisoft Toronto during the first in-person competition since 2019. This gave the talented competitors a chance to network with experts in the game development industry, as well as fellow finalists.

For the 3D Design category, competitors created an interior scene of a video game environment that focused on visual storytelling, the composition of quality assets and attention to detail.
Melissa's winning submission was a fascinating and hauntingly memorable depiction of the inside of a psychic shop that left a lasting impression on the judges.

DC's Game-Art program is well-known for its comprehensive curriculum that includes every aspect of the game development process and a focus on training artists for the games industry.

This is the second year in a row that a DC student has won in the 3D Design category.

2. Our People

Durham College softball field named Babcock Field

DC has announced a name for its state-of-the-art softball field, which reopened in September 2022 after renovations. The home of the Durham Lords women's softball team will now be known as Babcock Field, in honour of director of Athletics and Recreation Ken Babcock, who is retiring after 36 years of dedicated service to DC.

The new name was unveiled during Babcock's retirement celebration at the Campus Ice Centre restaurant, 2200 North on Monday, May 8.

DC's athletic program has flourished under Babcock's leadership. During his tenure, the Lords have won 116 provincial championships and 22 national championships. He has also spearheaded the addition of numerous athletic facilities, including the Campus Recreation and Wellness Centre, the Campus Ice Centre, and the softball field that will now bear his name.

Durham College trio honoured by the Ontario Colleges Athletic Association

DC and its tradition of athletic excellence was recognized by the Ontario Colleges Athletic Association (OCAA) earlier this month.

On May 1, two members of the DC family were inducted into the OCAA's Hall of Fame at a ceremony in Windsor. Ken Babcock, DC's former director of athletics and recreation who recently retired after 36 years of service, was enshrined into the Hall alongside former Durham Lords soccer coach Stan Bombino.

The OCAA also recognized DC's women's rugby standout Emily Cooper at the event. The Guelph native's dominance on the field earned her the OCAA's Female Rookie of the Year award for the 2022-23 season.

Bombino's stellar coaching career had already earned him a place in the DC Sports Hall of Fame in 2015. In 16 years as head coach of the DC men's soccer team, he led them to an impressive record of 119-66-20. They collected multiple provincial medals during his tenure, as well as a national bronze in 1999.

Though the two Hall of Famers have moved on, Cooper has only just begun her DC journey. Her remarkable rookie season included 34 tries in 18 games and 170 points, second only to her teammate Shay Morris. She played a key role in the team's march to an undefeated season and OCAA championship.

With athletes like Cooper giving their all and new athletic director Scott Dennis leading the way, the future is bright for DC.

DC's Emergency Manager wins innovative award

On May 12, 2023, the Ontario Association of College and University Security Administrators (OACUSA) hosted their annual conference in Kingston, ON. The organization is a trusted advisor for the post-secondary public safety profession across Ontario and champions engagement, advocacy, partnerships and professional standards across campuses. An important component of the conference is the recognition of individuals for their contributions to organizations and communities. DC and Ontario Tech University's Emergency Manager,

Thomas Bezruki was awarded the *Innovations and Community Oriented Policing/ Community Service Award*. Congratulations to Thomas on this incredible achievement!

3. Our Work

Durham College leads the way with grand opening of Centre for Innovation and Research

DC celebrated the opening of its Centre for Innovation and Research (CIR) on Thursday, a collaborative, state-of-the-art space designed to fuel creative thinking, networking and synergistic partnerships between DC and the community.

The CIR is home to the college's Office of Research Services, Innovation and Entrepreneurship (ORSIE) and four of six applied research centres, including the AI Hub, Centre for Cybersecurity Innovation, Mixed Reality Capture Studio and the Social Impact Hub, as well as the Institutional Research Team and the Experiential Learning Hub.

DC is committed to experiential learning for students and the CIR will provide students unique hands-on learning opportunities that boost their confidence, skillset and future employability.

Program Information Nights a big success

Everything DC has to offer was on display during Program Information Nights.

The doors of our Oshawa and Whitby campuses were open on Tuesday, May 9 and Thursday, May 11, respectively, to welcome in scores of visitors. Some were students who had already committed to DC and were eager to get a look at their future home, while others were still trying to decide where their college journey would take them.

Attendees had a lot to see and do during the event. Many got an early glimpse into life at DC by speaking to a variety of student services representatives. They also took the opportunity to explore our state-of-the-art facilities on campus tours.

For those who had questions about their program of choice, representatives from all of DC's Faculties were on hand to provide all the answers.

When all was said and done, more than 70 students had applied to attend DC, walking out with a new DC sweatshirt to help show their #DCpride. With everyone working together to show how DC is leading the way as a post-secondary destination, both nights were a resounding success.

Employee Town Hall connects employees from across the college

DC hosted the annual Employee Town Hall on May 17, 2023 as a chance for employees to gather, reconnect with colleagues and celebrate the accomplishments we have achieved together this past year. This year's agenda included updates from Finance, Communications + Marketing, an update from the international office on resources available to staff, and a student panel focusing on the international education experience and the power of transformative learning. Our award-winning Enactus Team also shared the pitch that earned them the Central Regional Champions 2023 in the TD Entrepreneurial Challenge, a national competition empowering post-secondary students to deliver projects that teach entrepreneurial skills to aspiring and existing entrepreneurs.

Over 600 employees attended in-person and over 150 tuned in virtually to the live stream. Additionally, we had 14 delegates from Kenya in attendance, visiting our campus as a part of the Young Africa Works TVET partnership. They were thrilled to learn more about the initiatives and student experience at the college. Crave doughnuts, refreshments and DC SWAG were provided, and the annual coin toss game awarded tech prizes to two lucky winners.

4. Our Community

Career Fair highlights opportunities in film and television

Over 800 visitors flocked to DC on Monday, May 8 for Film Durham's Film and Television Industry Career Fair.

DC students, local high school students and curious community members filled the gym at the Campus Recreation and Wellness Centre to learn about all of the careers behind the camera in Ontario's booming film industry.

By hosting the event, DC helps students build their networks by connecting them with industry professionals, while promoting the programs we offer that can help prepare them for a career in filmmaking.

The event kicked off with a panel discussion. After that, the guests were free to visit the booths and interactive displays filled with information on all the important elements of film production, from costume design and hair and makeup to prop creation and animation.

Unions like the Alliance of Canadian Cinema, Television and Radio Artists (ACTRA) and the International Alliance of Stage Employees (IATSE) were also present to provide more information about what a career in the arts is like.

A number of productions have been filmed in Durham Region in recent years, including popular titles like Schitt's Creek, The Handmaid's Tale, Umbrella Academy, American Gods and more. With more films and series entering production every year, the opportunities are practically limitless.

First responders participate in first-and-only, GM-led EV training in Canada, hosted at Durham College

DC welcomed more than 540 participants to its new, leading-edge EV lab for an exclusive two-day battery electric vehicle (EV) training event hosted by General Motors (GM). Four half-day sessions were held on May 24 and 25 to provide hands-on training to first responders to learn how to respond to emergency situations involving EVs.

Participants included first responders and

community partners, faculty members and 30 students from DC's Firefighter – Pre-Service Education and Training program. The opportunity provided students the chance to network with industry experts as well as gain valuable experience in a growing field.

The event was hosted in DC's brand-new EV Lab – a state-of-the-art facility uniquely designed in a multi-purpose, modular format that allows students to gain hands-on experience with EVs and their electrical and computer programming components. The lab features advanced equipment that enables DC to offer more in-depth training on the battery aspect of EVs – including their handling, testing and rebuilding – an area the college anticipates will see a growth in industry demands as the number of EVs increase.

The Cypher: Black Male Empowerment Conference inspires hundreds of young students

Scores of young Black male students experienced a life-changing day at DC on May 25.

400 students in Grades 7 to 10 from the Durham District School Board (DDSB) visited the Oshawa campus for The Cypher: Black Male Empowerment Conference. DC was proud to host the event, which is designed to provide Black boys with the knowledge and resources to overcome systemic barriers and achieve their full potential. Attendees met and learned from entrepreneurs, community leaders, educators and other role models.

The full day of activities included speeches, a community networking market, science experiments, engineering simulations and more. There was also fun to be had with basketball, sketching and a jam session. Workshops covered a wide range of subjects, from physical fitness to money management. The students also had the chance to get to know DC by touring the campus and exploring a range of programs and opportunities beyond high school.

A highlight of the day was a Q&A with keynote speaker Boi-1da. The Grammy-winning record producer enthralled the crowd with stories of working with Drake, Rihanna, Jay-Z and more of the biggest names in music. But the Toronto native acknowledged his humble beginnings, and stressed that the path he took to success is open to anyone who works hard and believes in themselves.

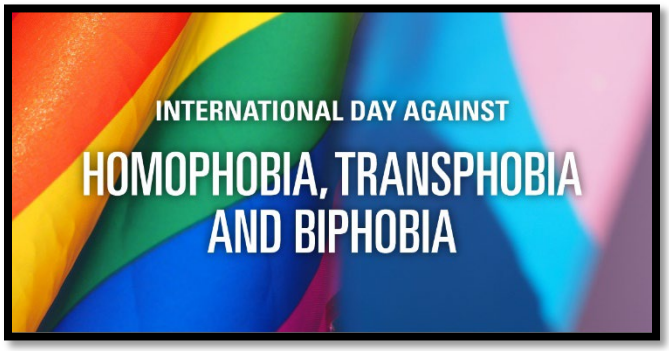
With plenty of opportunities ahead of them, DC might see some of the students again when they begin their own post-secondary journeys in the near future.

DC Recognizes International Day Against Homophobia, Transphobia and Biphobia

On May 17, 2023, DC acknowledged the International Day Against Homophobia, Transphobia and Biphobia, which draws attention to the ongoing violence and discrimination that is still a reality for members of the two-spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex and asexual (2SLGBTQQIA+) community.

At Durham College, we stand with members of the 2SLGBTQQIA+ community and reaffirm our commitment that everyone has the right to be safe and feel that they belong, regardless of their sexual orientation, gender identity or gender expression. In recognition and support of this day and our 2SLGBTQQIA+ community, we have raised the progressive pride flag at both our Oshawa and Whitby campuses.

This year's global theme – Together Always: United in Diversity – celebrates the many sexual and gender diversities and underscores the power of solidarity, community and allyship across different identities, movements and borders.



Join us in standing against homophobia, transphobia and biphobia and ensuring that Durham College remains a safe, welcoming and inclusive space for everyone.

5. Key Meetings Involving the President's Office (May 3, 2023 to May 31, 2023)

- Colleges Ontario Presidents Meeting – May 2, 2023
- Colleges Dialogues (Eastern Region) Keynote – May 4, 2023
- Colleges Ontario Meeting – May 5, 2023
- Innovation and Disruption Catalyst Group Meeting – May 9, 2023
- Kenya TVET Delegates Visit – May 15, 2023
- Barrett Family Foundation Partners Day – May 15 – 16, 2023
- DC Employee Town Hall – May 17, 2023
- Whitby Chamber Meeting – May 19, 2023
- Colleges Ontario CEO Tour and Meeting – May 24, 2023
- Colleges and Institutes Canada Board Meeting – May 24, 2023

- Colleges Ontario Meeting – May 29 – 30, 2023
- CICan Leadership Development Institute Meeting – May 31, 2023

Public Report

Report Number: BOG-2023-53

To: Board of Governors

From: Scott Blakey, Chief Administrative Officer

Date of Report: May 19, 2023

Date of Meeting: June 7, 2023

Subject: Report of the Chief Administrative Officer – June, 2023

1. Purpose

The purpose of this report is to provide the Board an update on College employee-related issues.

2. Recommendation

This report is being presented for information only.

3. Background

The Chief Administrative Officer report provides information and updates on college, student and employee related topics as well as current legal compliance and labour relations related items.

4. Human Resources and Equity, Diversity and Inclusion

Staff/Faculty Complement

	Full-Time			Contract					
As of	Admin	Faculty	Support	Admin	Faculty	Support	Regular PT	Students	Total
December 31, 2021	140	307	329	68	946	420	27	174	2411
February 28, 2022	141	312	332	73	941	392	30	210	2431
July 31, 2022	149	308	338	65	525	326	32	120	1863
December 31, 2022	155	308	340	58	65	245	36	203	1410
April 30, 2023	165	299	346	53	142	205	37	22	1269

Turnover Rate:

Full-Time											
As of	Total Ft Head Count	Admin	Turn over	%	Faculty	Turn over	%	Support	Turn over	%	Total
2018-2019	841	150	9	6.00%	336	3	0.89 %	355	7	1.97 %	2.26 %
2019-2020	848	151	6	3.97%	337	1	0.30 %	360	9	2.50 %	1.89 %
2020-2021	789	140	17	12.14%	321	1	0.31 %	328	7	2.13 %	3.17 %
2021-2022	785	141	10	7.09%	312	2	0.64 %	332	34	10.24 %	5.86 %
2022-2023	803	158	16	10.13%	300	3	1.00 %	345	27	7.83 %	5.73 %
Total			58			10			84		
2023-2024											
As of Apr 30, 2023	810	165	0	0.00%	299	0	0.00 %	346	1	0.29 %	0.12 %
YTD Total			0			0			1		

Projected Retirements:

Projected Retirements - 2022-2026
For Durham College

caat PENSION PLAN

Durham College Projected Retirements															
	DBprime Retirements					DBplus Retirements					All Retirements				
	Calendar Year					Calendar Year					Calendar Year				
Occupation	2022	2023	2024	2025	2026	2022	2023	2024	2025	2026	2022	2023	2024	2025	2026
Administration	6	6	7	7	6	1	-	1	1	1	7	6	8	8	7
Faculty	14	14	15	16	18	16	17	20	20	23	30	31	35	36	41
Support	8	9	9	11	11	3	3	4	3	4	11	12	13	14	15
Total	**28**	**29**	**31**	**34**	**35**	**20**	**20**	**25**	**24**	**28**	**48**	**49**	**56**	**58**	**63**

Notes

- *Retirements have been projected using active member data as of December 31, 2021 and are based on the overall plan retirement experience over the past 5 years, reflected by the retirement scale used in the plan's actuarial valuation.*
- *Year by year experience may differ from projections for various reasons including but not limited to, retirement programs being offered or eligible members settling their benefit by lump sum payout.*

Durham College – Actual Retirements:

Full-Time					
As of March 31,	Total Ft Count	Admin Retirements	Faculty Retirements	Support Retirements	Total (Fiscal Year)
2018-2019	841	3	2	7	12
*2019-2020	848	8	29	18	55
2020-2021	789	3	12	6	21
2021-2022	785	3	14	12	29
2022-2023	803	10	14	10	34
2023-2024 (as of April 30th)	810	0	0	0	0

*voluntary retirement incentive program year

Durham College – Confirmed Retirements:

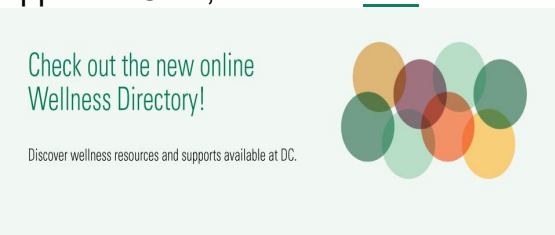
	Confirmed Retirements for 2023-2024						
	April	May	June	July	August	September	Total (Fiscal Year)
Administration	0	0	1	0	0	0	1
Faculty	0	0	5	0	2	0	7
Support	0	2	0	0	0	1	3
Total	0	2	6	0	2	1	11

Human Resources Information System (HRIS)

- Winter and Spring semester contract faculty inputs.
- 2022/2023 fiscal year end reporting requirements.
- Applied February 1, 2023 contractual pay increase for Part-time Support Staff.
- Continued enhancement of Banner reporting (PD, Leaves).

Employee + Organizational Development

- The College Wellness Committee, with the support of C+M, launched The Wellness Directory. This new online hub provides a central location and easy access to all the wellness supports and resources available at the college for students and employees. Resources are organized by the eight dimensions of



wellness: environmental, financial, intellectual, mental, occupational, physical, social, and spiritual.

- Launched DC's first employee pulse survey, *The Pulse,* with the support of ORSIE and C+M. The Pulse will be conducted three times per year with high-level results shared on the college's intranet, ICE.

  - Distributed to 2,409 full-time and part-time employees.
  - 370 responses, indicating an overall participation rate of 15.4%.

	Strongly Agree/ Agree	Strongly Disagree/ Disagree	Neither Agree nor Disagree
I am engaged in my work. (n = 370)	90.3%	3.2%	6.5%
I am proud to work at the College. (n = 369)	79.9%	7.0%	13.0%
I am committed to the success of the College. (n = 369)	92.7%	1.6%	5.7%
I am informed on what is happening at the College. (n = 370)	71.9%	11.6%	16.5%
I have the resources to do my job. (n = 366)	61.7%	19.1%	19.1%
I understand how my job supports the College to meet its goals and objectives. (n = 370)	88.4%	4.6%	7.0%

- Celebrated National Employee Appreciation Day on March 3 with resiliency keynote, Dr. Robyne Hanley-Dafoe. A total of 227 employees registered to attend the virtual event.

- Collaborated with C+M on the following projects:
  - Canada's Greenest Employers award announcement and special publication with Globe and Mail (7th consecutive year).
  - 2024 Canada's Top 100 Employers award competition application.
- Presented the professional development and wellness program, overview of EFAP services at the Faculty of STA and Faculty HHS Program Coordinators meeting.

- Hosted a celebratory lunch at Bistro'67 for the Employee Awards of Excellence recipients (Thomas Bezruki, Visal Chea and Jason Vassell).
- Faculty Professional Development Leave – two applications were received and approved for paid leave of absence during the 2023-24 academic year.
- Employee Emeritus Award – three nominations received. Recipient(s) to be announced at Spring Convocation.
- January - May 2023 PD & Wellness: 23 sessions and four series were offered to employees.
- DC to host The Chair Academy, worldwide leadership development in higher education, from May 29 to June 2, 2023. Of the 40 participants from higher education across Canada, 18 are DC administrative staff.
- 28 employees completed the Mental Health Aid two-day training program offered between January – April 2023.
- DC branded jackets were distributed to ten employees upon retirement between January – April 2023, for a total of 51 since September 2022.

Office of Equity, Diversity & Inclusion

- New EDI Director started on April 11, 2023; meetings are underway to facilitate development of solid working relationships with the leadership of various departments/teams/interest groups across campus, including orientation to their mandates and services, and the intersections with the OEDI.
- New Sexual Violence Education and Prevention Coordinator started on April 10, 2023.
- The OEDI workplan, grounded in the DC Business Plan, DC Strategic Plan and the EDI Committee's Infrastructural Framework, is being reviewed and re-developed.
- The Equity, Diversity, and Inclusion Census for students and employees was completed in the Winter term.
- Phase 1/3 of the OEDI Website re-development is underway.
- Recommendations are being developed about updates to the signage for the All-Gender Washrooms, and the guiding policy.

Update Concerns Management

- Between February 2023 and May 2023, five student concerns have been received and closed.

Update Training

- Two PD sessions were facilitated during Black History Month; the first session focused on Black histories and legacies of enslavement in Canada. The second session focused on recognizing and addressing Anti-Black Islamophobia in Canada.
- A Socialize event was organized for the DC community at the end of Black History month, participants attended in-person and virtually.
- In February 2023, a Black Health and Wellness Fair was held in The Pit as part of Black History Month and supporting Black sexual health with the support of community partners including AIDS Committee of Durham Region (BACCO program), Ontario Tech University, and others. 50 DC students stopped by the SV table to learn more about sexual violence support at the College.
- PD sessions on recognizing and responding to microaggressions were completed in March 2023, with 33 employees attending over two sessions.
- Two EDI-Ontario Human Rights Code sessions were facilitated for students in SSW field seminar courses in March, 2023.
- Five sessions of the Let's Talk Sex Series, facilitated by community partner AIDS Committee of Durham Region, were organized and executed during the Winter Semester between January and March 2023; 50 participants attended. Four sessions are scheduled for the Spring/Summer Semester during May-June 2023.
- EDI session with ORSIE Research Coordinators is scheduled for June 7, 2023.

Sexual Violence Awareness & Supports

- Between February and May 2023, there have been a total of five disclosures/incidents shared via svsupport@durhamcollege.ca

RISE Coaching + Outreach

Update: Outreach Highlights:

- The Congress of Black Women Durham and RISE successfully facilitated service and fun fair for 150 prospective students in February 2023. Workshops and presentations were facilitated to engage Black students from grades 8 to 10 to explore postsecondary education pathways.
- RISE staff attended a community service fair at J. Clarke Richardson Collegiate by DurhamONE to promote Durham College and RISE services to high school students. RISE staff connected with 50 students.

- RISE presentation delivered to 11 adult learners in the Adult Dual Credit Workshop for Basic Electrical and Wood Frame Construction.
- Cypher Conference with RISE and Durham Black Educators Network is scheduled for May 25, 2023; over 300 Black male high school students expected to attend.
- RISE is facilitating a campus visit and session with 41 high school students, expected to attend Durham College in Fall 2023, from Courtice Secondary School (Kawartha Pine-Ridge District School Board) on June 8, 2023.
- Between February and April 2023, coaching and support was offered to five learners regarding navigating services at Durham College by the EDI Program Advisor.

5. Facilities Management & Ancillary Services

Durham College Support Unit Relocation Project

- Planning and development work is now underway on our relocation strategy for several college service units. Currently occupying space in Campus Corners, a building under lease by On Tech University and Durham College, various support units including finance, information technology, communications and marketing, and risk management will all be re-located into existing Durham College space.
- **Relocation of Human Resources to C-Wing (2nd floor):** Currently developing a plan to renovate the existing faculty of business offices on the second floor of C-wing to accommodate the new home of Human Resources. Several existing offices will be refreshed prior to Human Resources staff occupying the new space. The faculty of business will be relocated to H-wing level 1 (old VPA offices).
- **Relocation of Communications & Marketing to A-Wing (3rd floor):** Working with Bortolotto Architects to renovate two existing classrooms on the 3rd floor of A-Wing into new office space for our communications and marketing team. Design work is almost complete and we expect construction to be complete by the end of the summer.
- **Renovation of C-Wing (1st floor) – New home of EDI:** Working with Grace Wang Architects to renovate existing space in C-wing for the Equity, Diversity, and Inclusion Team (EDI) as well as additional faculty offices and classroom space. Construction is underway and expected to be completed in a few weeks.
- **Renovation of H-Wing (2nd floor) – New student space:** Working with BSN Architects on the development of a new design for H-wing level 2. Previously used as CICE space, this new space will be transformed into new student study and common space. This space is expected to be open for use this fall.

Custodial Services

- As our current contract with GDI expires on June 30, 2023, a new three-year contract (with two optional one-year extensions) has been signed with Best Pro Cleaning Services after an extensive RFP. Best Pro Services will deliver custodial services to both the college and university effective July 1, 2023.

Operating Engineers

- Following an extensive RFP, Cimco refrigeration has been contracted to provide oversight of our TSSA regulated mechanical spaces. This three-year contract began on May 1, 2023.

Food Services

- Our team is working with our food service provider (Chartwells) to explore food service options in three campus locations:
    - Whitby Shop Area: currently a closed Tim Horton's location, we are exploring a Booster Juice concept to open later this fall pending approved funding.
    - Oshawa C-wing: currently a closed Tim Horton's location, we are working with our provider to develop a new concept for this space.
    - CFCE Marketplace: after just opening this past March with a limited beverage and grab n'go model, we're exploring a new bubble tea model combined with soup/sandwich shop to open this fall.

6. Communications & Marketing

Digital:

- In collaboration with the wellness committee, a Wellness Directory website was launched. This website provides DC students and employees with access to the 8-dimensions of support on campus. The directory can be accessed here.

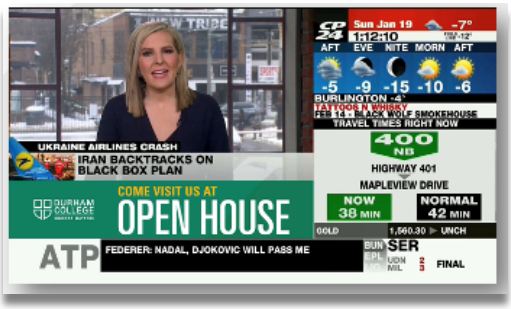
- Three new program videos were created to assist recruitment efforts:
    - Early Childhood Education
    - Sport Administration/Business Management
    - Supply Chain and Operations Management

Events

- Successfully executed 14 events between January and May, including the **President's Breakfast, Winter and Spring Program Information Nights,**

Spring Open House and the Centre of Innovation and Research (CIR) Grand Opening.

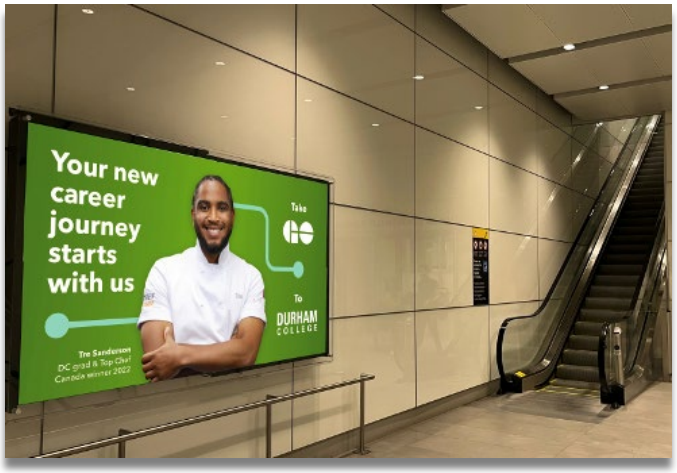
- Ran a strategic event marketing campaign that resulted in 2000+ guests attending Spring Open House in April.



Metrolinx

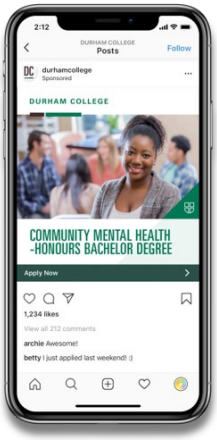
- Completed the signage project at the DC Oshawa Go Station with the installation of an interior sign, large exterior banner on the southside of the station, flags on the parking lot light standards, entry pylon and west parking lots signs.

- Launched a joint marketing campaign featuring three DC programs (Graphic Design, Culinary and Computer Programming and Analysis). Tactics include: social media (paid and organic), Go Transit, digital billboards along the 401 and in-station digital ads.



Marketing campaign strategies executed and in-market in winter and spring

- Degrees
- New Programs
- Start this May; September
- Signature and Priority programs digital marketing
- Spring Open House and May Program Information Nights
- Professional and Part-time Learning (PPL)



Social Media

- In collaboration with Alumni team, launched the International Alumni Network on LinkedIn – over 139 members in one week.
- In collaboration with HR team, launched the Employee Life page on our LinkedIn profile.
- CIR opening - 36 mentions; 22.3 K Impressions; 3.1 K engagements; 2 K Clicks; 14% engagement rate (**average is 1-2%, this is incredible**)
- TikTok – launched April 2022, we currently have: 612 Followers; 18 K video likes
- January 1, 2023 to present:
    - 291.7 K Engagements
    - 22.8 M Impressions
    - 11.4 K Clicks
    - 9,377 New followers
    - 6.6 K Messages (DMs and comments)
    - Top posts:
        - Facebook: Open House photo album
        - Twitter: Weather advisory
        - Instagram: Weather advisory
        - LinkedIn: CIR opening
        - TikTok: Lord Durham album cover meme

Communications

- **Leading the Way Toolkit** - To create a unified brand approach for all employees who connect with the public, launched the Leading the Way toolkit with presentation templates and assets that feature concise and consistent DC key messages and high-level data.

- **Blogs** – Posted 11 new blogs, which have received nearly 8,000 page views. Over the past three months, the most viewed blogs were:
    - Prepare for these five in-demand careers at DC
    - Boost your employability with a DC degree
    - An evening with Canada's top chef

Media Coverage for February 1 to April 30**:**
- Secured 151 media stories
- Print/Digital = 151 hits (56.47%) for a reach of 116.76M
- Broadcast = 157 hits (43.53%) for reach of 89.9M
- Signature & Prioirty program media coverage = 48 media stories for a **reach of 32.58M**

- Recent positive media coverage has included:

    - Feature Global Durham on Skilled Trades students at Durham College getting help with new scholarships: https://globalnews.ca/news/9483123/skilled-trades-students-durham-college-new-scholarship/
    - Feature on Global News Toronto with Don Fishley, faculty member of the building construction program, and four skilled students for a story related to the need for skilled graduates to support the housing boom: https://globalnews.ca/video/9507776/ontario-in-need-of-100000-more-skilled-labourers-as-construction-target-looms/
    - Tre Sanderson event at Bistro '67 was featured in Metroland: https://www.durhamregion.com/life/it-s-my-dream-tre-sanderson-returns-to-durham-college-classroom-as-a-top-chef/article_26191a21-64f0-5455-a823-88426cb7b059.html
    - Some good news coverage on DC recognized as a Greenest Employer, including a segment on Global Durham News and Durham Radio and an article in the Globe and Mail:

    https://www.theglobeandmail.com/business/adv/article-durham-college-grows-its-own-green-future/

Off and on-campus recruitment

- From December to March, the recruitment team attended and hosted 103 on and off-campus events seeing over 7,900 total attendees.

- From December to April, the recruitment team attended and hosted 155 on and off-campus events seeing over 13,000 total attendees.

7. Student Affairs

Access and Support Centre (ASC)

- The ASC and Financial Aid and Awards (FAA) have collaborated to provide grant funding to ASC registered students who have placements in the spring/summer or fall semesters in order to remove barriers to participating in work integrated learning opportunities. Durham College received a total of $792,000 from Co-operative Education and Work-Integrated Learning Canada (CEWIL) IHUB to provide up to $1800.00 to eligible students.

CEWIL CANADA | Co-operative education and work-integrated learning

- ASC employees and students participated in an inclusive photo shoot with the Communications and Marketing team to ensure our database photos are more representative of students with disabilities/exceptionalities.

Athletics and Recreation

- The Department of Athletics and Recreation (A&R) hosted its 51st Annual Athletic Banquet to honour the outstanding seasons of the varsity teams who were featured in this “Greatest Showman” themed video.

- 53 student athletes were recognized for their academic achievements in the 2022-2023 year.

- In March, front of a crown of over 1000 students, the A&R department partnered with the Durham College Student Association (DCSA) and the Ontario Tech Student Union (OTSU) to host the inaugural “Campus Clash” featuring the Durham College (DC) varsity basketball programs up against Ontario Tech University at the Campus Recreation and Wellness Centre (CRWC).

- After 36 years at DC, Ken Babcock announced his retirement as Director of Athletics and Recreation. In honour of his tireless efforts and unwavering commitment to the campus community, the newly renovated softball field has been called “Babcock Field” in his honour.

Campus Health and Wellness Centre

- Campus Health and Wellness Centre (CHWC) staff hosted a planning day to help connect employees from multiple departments who provide mental health and wellness services. It was a great opportunity to collaborate and map out next steps to best support students.

- CHWC expanded their laboratory services and launched the “I’m Ready” program partnership to provide at home testing kits for HIV.

- Opened the ‘Wellness Den’- In collaboration with the DCSA, coaches are able to provide students with free hygiene and sexual health products, as well as healthy snacks to help promote available wellness resources and services. The Wellness Den offers a range of wellness-based workshops and co-hosts a podcast, WellPod@DC on RiotRadio.ca in partnership with DCSA Media Hub and Student Academic Leaning Services (SALS).

- CHWC launched a new triage process to streamline mental health and wellness services for students by introducing a self-identified needs assessment tool. This allows students to identify personal needs and some autonomy in self-referring. This allows CHWC to provide preventative care and has reduced the demand for

psychotherapy and increased the amount of users served. CHWC has been able to see a record high number of students in March 2023.

Career Development

- Career Development (CD) and OUT hosted a very successful Job Fair on February 2. 2134 students and alumni attended, (1369 representing DC). This is the highest attendance on record for this annual event, and the first in-person Job Fair since the pandemic. Another record-breaking element was the 94 employers who registered for the event.

- CD also hosted a successful Job Fair at the Whitby campus on February 8 with 38 employers in attendance. Several employers mentioned that they were able to find successful candidates and had offered job opportunities to students during the event.

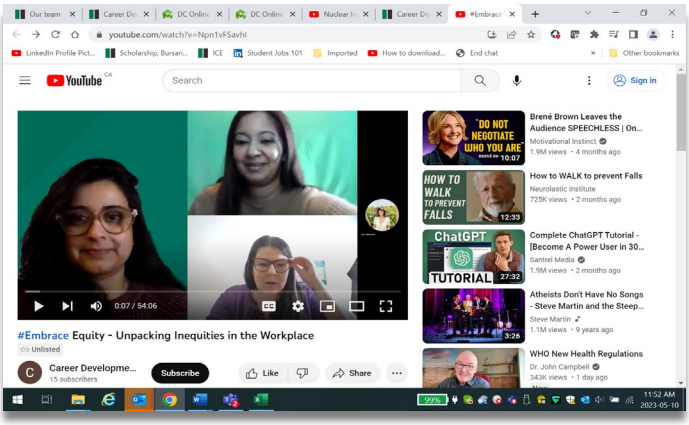
- Collaborated with the International Education Office to deliver “How to Find a Part Time Job in Canada” webinar for new May-start students and delivered Interview Techniques and LinkedIn workshops for the Graduating International Student Experience (GISE) course.

- Collaborated with FAA to promote summer on-campus employment opportunities by hosting an Instagram Live session, March 7th featuring the On-Campus Employment Coordinator.

- CD collaborated with Residence Services by hosting on-site pop-up booth to promote and provide awareness of CD services to students living in residence.

- Collaborated with Student Development (SD) and the Institute for Student Leadership (ISL) on March 21, by delivering career- focused workshops to participates.

- Collaborated with the Office of Equity, Diversity, and Inclusion (OEDI) on March 6 to deliver Embrace Equality - Unpacking Inequities in the Workplace Fireside chat.

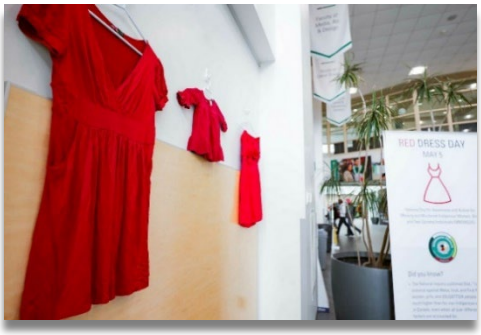


- Collaborated with Part-time and Professional Learning (PPL) on April 20 by hosting IG Live session focusing on PPL programs, further education and micro-credentials.

First Peoples Indigenous Centre

- FPIC collaborated with the Journalism program and supported the “Voices in Durham” Project. This project allowed Jacob Powless, a self-identified Indigenous student, to produce and host the *Indigenous Voices* in Journalism panel.

- In honour of Red Dress Day, approximately 50 red dresses were displayed as part of an art installation across both campuses.



Financial Aid and Awards (FAA)

- FAA Coaches joined the DC recruitment team on the road to deliver Financial Aid presentations to 7 local high schools.

- Launched the On-Campus Summer Employment program with a budget of $1.8 million and 201 positions approved. As of May 3, there were 374 international and domestic applications.

- **Ontario Learn and Stay Grant (OLSG) -** **Ontario Learn and Stay Grant** Collaborated with the Seven Generations Educational Institute (SGEI) to launch the Ontario Learn and Stay Grant (OLSG) for the DC Paramedic Program (PPC), currently delivered at the Fort Frances and Kenora campuses. Due to an overwhelming response to the OLSG, SGEI received sufficient applicants to deliver a cohort of PPC at the Sioux Lookout campus.

- **Ontario Ukraine Solidarity Scholarship -** **Province helping Ukrainians continue their lives in Ontario**

  Collaboration with the International Education Office, to launch the Ontario Ukraine Solidarity Scholarship (OUSS); successfully adjudicating and awarding $40,000 to 4 DC students impacted by unrest in the Ukraine.

- **Ontario E-Sports Scholarship -** **Ontario establishes E-sports scholarship** The Ontario Esports Scholarship program offers financial assistance to students enrolled in programs related to the game design, development, marketing, and innovation industry that may lead to a career in similar fields. FAA in collaboration with the Faculties of Media Art & Design; Business; Science, Engineering & Information Technology, launched, adjudicated and awarded $25,000 Ontario E-Sports Scholarships to 18 students in related programs

Student Development

- On Friday, February 17, the SD Office participated in “Random Acts of Kindness Day” by surprising students with world famous Canadian pastries, Beavertails and DC swag. They also hosted a “take one, leave one” postcard table at both campuses sharing positive messages.

- Hosted the Institute of Student Leadership (ISL) Summit on Saturday, March 18, at the Whitby campus with 55 attendees. The event featured 4 sessions, a keynote speaker, networking activities and lunch.

- Start Strong spring transitions virtual programming launched on March 27 with 42 students attending the live Introduction to PREP 1000 & Navigating Your First-Year session and 101 YouTube views post-April sessions.

- Throughout April, SD hosted 12 virtual sessions (Ask a Student, Academic Welcomes, Get Hired, etc.) and 10 Oshawa and Whitby campus tours. 244 students attended live sessions and in-person tours.

- Approximately500 new students attended “Spring into DC” social orientation events on April 28.

Residence

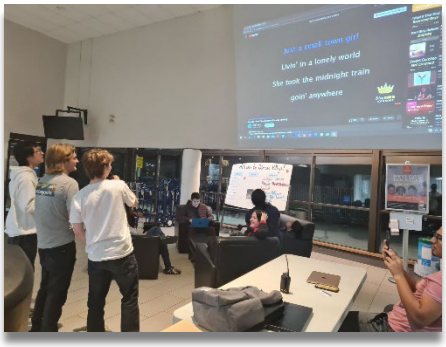
- In partnership project with Canadian Mental Health Association (CMHA) and in response to the increasing amount of mental health concerns within the student population, Residence received a grant of $25,000 from the Centre for Campus Innovation and Mental Health (CICMH) to offer on-call evening and weekend support from the CMHA to assist Residence staff in managing student mental health concerns.

- Residence staff took more than over 60 students to the 2023 Comicon Event held at the Metro Toronto Convention Centre on March 18 2023. Transportation

and tickets were provided free of charge to the Residents (DC and OTU students participated).

- Residence hosted a free Exam Prep Meal for students where they shared a meal with their peeps; focusing on prioritizing rest, learned about the importance of good nutrition during exam season and provided academic resources.

- The Residence Pantry is an initiative to help tackle food insecurity within the Residence. The pantries are stocked in the lobbies at South, Simcoe and Whitby Village. Other items such as toiletries and hygiene products are also available.



8. Campus Safety

- On May 30, 2023 from 0830hrs – 1430hrs, the Office of Campus Safety hosted the second annual emergency response/management exercise (Ex. Campus Wings) at the north joint Durham College & Ontario Tech University campus. Over 100 emergency responders will be in attendance:

    - Durham Regional Police (DRPS) – Education and Training Centre
    - DRPS Command
    - DRPS K9 and Tactical Units
    - Oshawa Fire Service (OFS) – Training Cell
    - OFS Command
    - Durham Regional EMS and Tactical EMS
    - Durham Regional 911 Communications
    - Durham Regional Emergency Management Office (DEMO)
    - Durham Region Transit (DRT)
    - Durham Regional Social Services
    - Ministry of Solicitor General – Emergency Management Team (EMO)
    - Office of Campus Safety

  Scenario's:

    - Active Shooter
    - Structure Fire with extraction of persons with disabilities
    - Active Shooter with Fire (adopted scenario based out of two US Universities "Fire as a Weapon").

- The Office of Campus Safety experienced turnover during COVID including a retirement and the resignations of a Manager and Support Staff member. The resulting hiring processes created the "new" OCS which quite frankly is faster, stronger, leaner and taller! Pictured here on Red Dress Day 2023 showing our steadfast commitment to action in the elimination of gender-based violence.

Front Row L-R: Thomas Bezruki (Emergency Manager), Michelle Osbourne (Admin), Diana D'Ornellas (CERT Coordinator), Peter Trimble (Manager Public Safety) Back Row L-R: Tom Lynch (Director), John Neil (Paragon Site Admin), Jade Harper (Manager Student Conduct).

9. Information Technology Services

- This report provides a review of the IT Services project portfolio for the 2022/23 fiscal year. In this period 155 projects have been completed. 68 of these projects were for Durham College, 29 for Ontario Tech, and 58 were shared projects. The following table provides more detail on the projects completed by the Enterprise Systems (ES) team, Information and Communication Technology (ICT) team, IT User Support Services (USS) team, Information Security (InfoSec) team, and IT Service Management (ITSM) team.

Projects Completed between April 1, 2022 – March 31, 2023

	ES	ICT	USS	InfoSec	ITSM	Total
Durham College	16	19	31	2	0	68
Shared	9	26	6	8	9	58
Ontario Tech	10	9	9	1	0	29
Total	**35**	**54**	**46**	**11**	**9**	**155**

- The **Enterprise Systems (ES)** team focused on priorities identified by the Institutional Project Prioritization Council. Since April 2022, the team completed several high priority projects including the Academic Portfolio Changes, the CIBC International Student Pay platform to accept payments from international students, and International Agent Portal Enhancements. Banner related projects include storing student emails in Banner, numerous workflows to automate business processes, rollout of Banner Self Service for additional departments, Banner upgrade, Cognos upgrade as well as Banner year end regulatory updates. The ES team also completed several other projects including revamping the Enterprise Systems Access request form, and facilitating the migration of employee and student data to My DC.

- The **IT User Support Services (USS)** team completed the annual academic lab refresh for hardware and software, the faculty refresh activities, and performed an upgrade for AppsAnywhere (DC Apps). The team set up protocols to allow authorized support teams to manage DC issued iPads and iPhones through Apple School Manager. The USS team supported growth at the Whitby campus, including the shop cottage renovations, and deployment of flexible hybrid learning equipment for 2 classrooms in the Centre for Skilled Trades and Technology. Across the Whitby and Oshawa campuses, USS upgraded 21 podiums to AODA standards and installed new digitized AV in 11 classrooms.

- The **Information and Communication Technology (ICT)** team completed several shared projects for improving and maintaining back-end systems including upgrading of data centre servers, replacing backup storage with a specialized appliance including an additional 15TB capacity increase. ICT led an investigation with a Microsoft-recommended consulting vendor to review the current campus IT architecture and make recommendations for an Azure roadmap to migrate select functions to the cloud. ICT's network team deployed an appliance to log and store information security events. ICT's telephony support team facilitated a pilot with DC business users to utilize Microsoft Teams as the solution for inbound and outbound phone calls. In addition, the USS and ICT teams supported numerous Facilities projects across campus locations.

- The **Information Security (InfoSec)** team reviewed recommendations from prior analyst reports and network penetration tests, and coordinated

across IT Services teams to deploy the relevant changes to optimize the environment. InfoSec worked with multiple departments campus-wide to facilitate a tabletop exercise. InfoSec deployed functionality for DC students to improve secure access for DC Microsoft applications and provided students with self-service password reset functionality.

- The **IT Service Management (ITSM)** team supported the Approved Scanning Vendor (ASV) scanning of the PCI zone and a penetration test conducted by an external company. The ITSM team also supported an upgrade to the Cherwell ticketing system which hosts request and resolution information for Incidents and Service Requests.

10. Implications for the Joint Campus Master Plan

There are no implications for the joint campus master plan.

11. Implications for Ontario Tech University

There are no implications for Ontario Tech University.

12. Relationship to the Strategic Plan/Business Plan

The report relates to Governance and Accountability and the “Our People” pillar of the strategic plan.