




MAY 2021 – PUBLIC MEETING AGENDA

Meeting Date: May 26, 2021

Meeting Time: 10:00 am








Meeting Information: Via Zoom – details provided in the calendar invite

1. Call to Order, Land Acknowledgement and Confirmation of Quorum
2. Declaration of Conflict
3. Approval of Meeting Agenda
4. Consent Agenda
The following item will be addressed through the consent agenda unless specifically requested to be removed for separate attention, by request.
 - 4.1 Minutes from the March 24, 2021, Public Meeting  pages 3-8
5. Business Arising (not otherwise covered)







Educational Component:

- | | | | |
|----|------------------------------|------------|--------|
| 6. | Waste Water/COVID-19 Testing | B. Goodwin | 20 min |
|----|------------------------------|------------|--------|

Decision Items:

- | | | | |
|----|--|---|--------|
| 7. | New Programs: | L. Poirier with
P. Stoneham &
M. Chowdury | 20 min |
| | 7.1 Motive Power Technician – Recreational and Sport Vehicles  pages 9-81 | | |
| | 7.2 Electrical Engineering Technology  pages 82-144 | | |
| | 7.3 Artificial Intelligence  pages 145-201 | | |
| 8. | Policy Revisions: | E. Zdolec with
E. Goodman | 20 min |
| | 8.1 Conflict of Interest Policy  pages 202-212 | | |
| | 8.2 Harassment and Discrimination Prevention Policy  pages 213-240 | | |
| 9. | Finance & Audit Committee: | D. Gillespie with
D. Van Parys &
A. Sims | 15 min |
| | 9.1 Internally Restricted Assets  page 241 | | |
| | 9.2 2020-2021 Audited Financial Statements  pages 242-285 | | |
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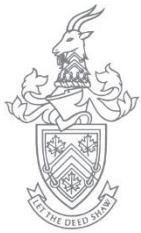
Information Items:

- | | | | |
|------|---|--|--------|
| 10. | Finance & Audit Committee: | D. Gillespie with
D. Van Parys &
A. Sims | 10 min |
| 10.1 | Internal Statement of Revenue & Expenditures for the
year ended March 31, 2021  pages 286-290 | | |
| 10.2 | 2020-2022 Preliminary Budget Status
Update  pages 291-293 | | |
| 10.3 | Comparative Balance Sheet for the year ended
March 31, 2021  pages 294-296 | | |
| 11. | Sexual Violence Prevention Report: 2020-21 Annual
Report  pages 297-303 | S. Dupret | 10 min |
| 12. | Indigenous Fleming May 2021: Biannual Report  pages 304-310 | S. Dupret &
L. Poirier | 10 min |
| 13. | Spring Enrolment Report & International Update - material to be
provided at meeting to ensure timeliness of data | R. Srdic &
D. Van Parys | 10 min |
| 14. | Board Chair Report Verbal | F. Clifford | 5 min |
| 15. | President's Report  pages 311-315 | M. Adamson | 5 min |

Discussion:

- | | | | |
|-----|----------------|--|-------|
| 16. | Other Business | | 5 min |
|-----|----------------|--|-------|

Adjournment approximately 12:15 pm



PUBLIC MEETING MINUTES

Meeting Date: March 24, 2021

Meeting Location: Virtual Meeting via Zoom

Meeting Attendance:

Present:

Fred Clifford, Board Chair
Paul Downs, Vice Chair
Cynthia Chan Reynolds
Marg Cox
Ben Currelly
Jason Fleming
Don Gillespie
Mary-Anne Hoggarth

Katherine MacIver
Dan Marinigh
Cathy Praamsma
Nicole Grady
Thom Luloff
Mary Lou McLean
Chandra Gupta
Maureen Adamson, President

Regrets:

Tim Kennaley

Senior Administration:

Christy DeMont, Chief Technology Officer
Sandra Dupret, Vice President, Student Experience
Brett Goodwin, Vice President, Applied Research & Innovation
Sherry Gosselin, Director, Project Management and Institutional Research
Tom Phillips, Chief Recovery Officer
Linda Poirier, Vice President, Academic Experience
Roni Srdic, Registrar
Marilyn Strain, Manager, Digital Marketing & Creative Services
Drew Van Parys, Vice President, Economic and Community Development and Acting Vice President, Corporate Services & CFO
Terry Williams, Director, Physical Resources
Esther Zdolec, Vice President, Human Resources and Organizational Effectiveness

Administrative Support:

Sandra Armstrong, Manager of Operations
Sara O'Halloran, Executive Assistant

Guests:

Shanthi Rajaratnam, Director, Workforce Development, SSM – Fleming College
Eric Marshall, Managing Partner, Blazing The Agency
Susan Conner, PRISM Partners Inc.
Alex Josephson, PARTISANS Architecture Studio
Molly Westland, Dean, School of Health & Wellness
Tania Clerac, Principal/Dean, School of Environmental & Resource Sciences

1. Call to Order, Welcome to the Traditional Territory and Confirmation of Quorum

The Chair called the meeting to order at 10:01 a.m. and acknowledged that the Board of Governors hosted the March 24, 2021 virtual public meeting on the traditional lands of the Mississauga and Anishinaabe peoples.

Quorum was confirmed, regrets noted, staff, guests and observers in attendance were welcomed.

2. Declaration of Conflict

None identified.

3. Approval of Meeting Agenda

Moved by Don Gillespie and seconded by Paul Downs that the Board of Governors of Sir Sandford Fleming College approve the agenda of the March 24, 2021 public meeting as presented.

Carried.

4. Consent Agenda

A brief discussion transpired and it was agreed to adopt gender neutral pronouns in all future meeting minutes.

Moved by Ben Currelly and seconded by Jason Fleming that the Board of Governors of Sir Sandford Fleming College approve the consent agenda for the March 24, 2021 public meeting and, through this consent:

- *Approve the minutes from the January 27, 2021 Public Meeting.*

Carried

5. Business Arising

None identified.

6. Educational Component – Fleming College Muskoka-Kawarthas Service System Manager (SSM)

The Chair welcomed Sandra Dupret, Vice President, Student Experience and Shanthi Rajaratnam, Director, Workforce Development, SSM, who provided a presentation on the Fleming College Muskoka-Kawarthas Service System Manager (SSM)

Moved by Nicole Grady and seconded by Don Gillespie that the Board of Governors of Sir Sandford Fleming College receive the Fleming College Muskoka-Kawarthas Service System Manager (SSM) presentation for information.

Carried.

7. Ancillary Fees and Student Levied Fees

The Chair welcomed Sandra Dupret, Vice President, Student Experience and the briefing note that was provided in the meeting documentation was reviewed. The Ancillary fees align with the Minister's Binding Policy Directive on Tuition and Ancillary Fees and has been developed through consultation with our Student Governments. Administration has recommended the majority of these fees should be kept to levels equivalent to cost of living increases, using the Consumer Price Index as published by Statistics Canada as a guide to inflation, determined as 2%. The College and Frost Student Association (FSA) have followed that recommendation while Student Administrative Council (SAC) is opting not to increase most student levied fees associated with their organization.

Moved by Paul Downs and seconded by Chandra Gupta that the Board of Governors of Sir Sandford Fleming College approve the Student Ancillary and Student Levied Fees, and Academic Program Ancillary Fees for implementation September 2021.

Carried.

8. Asset Management Policy

The Chair welcomed Don Gillespie, Chair of the Finance & Audit Committee and Drew Van Parys, Vice President, Economic & Community Development and Acting Vice President, Corporate Services and CFO. The Asset Management Policy (provided in the meeting materials) was endorsed by Finance and Audit Committee at their meeting of March 8, 2021.

Moved by Don Gillespie and seconded by Jason Fleming that the Board of Governors of Sir Sandford Fleming College approve the Asset Management Policy for implementation for April 1, 2021.

Carried.

9. Proposal to Develop – Program in Surveying – Certificate and Diploma

The Chair introduced Linda Poirier, Vice President, Academic Experience and Tania Clerac, Principal/Dean, School of Environmental & Natural Resource Sciences who spoke to the briefing note included in the meeting materials.

Moved by Marg Cox and seconded by Chandra Gupta that the Board of Governors of Sir Sandford Fleming College approve the proposal to develop a new Surveying Ontario College Certificate Program, and a Surveying Ontario College Diploma Program with an estimated start date of Winter 2023.

Carried.

10. Finance & Audit Committee Items:

Don Gillespie, Chair of the Finance & Audit Committee introduced the following items (which were endorsed by Finance and Audit Committee at their meeting of March 8, 2021):

10.1 Cash Flow and Balance Sheet Report;

10.2 2021-2022 Preliminary Budget – Status Update; and,

10.3 Financial Reports for the Ten Months Ending January 31, 2021

Drew Van Parys, Vice President, Economic & Community Development and Acting Vice President, Corporate Services and CFO was also available for questions.

Moved by Don Gillespie and seconded by Paul Downs that the Board of Governors of Sir Sandford Fleming College receive for information:

- *the Cash Flow and Balance Sheet Report – Presentation;*
- *the 2021-2022 Preliminary Budget – Status Update; and,*
- *the Statement of Revenues and Expenditures for the ten (10) months ending January 31, 2021, the Forecast for the year ended March 31, 2021, the Quarterly Cash Flow Forecast for the year ended March 31, 2021 and the Balance Sheet as of January 31, 2021.*

Carried.

11. College Branding

The Chair welcomed Drew Van Parys, Vice President, Economic & Community Development and Acting Vice President, Corporate Services and CFO, Marilyn Strain, Manager, Digital Marketing & Creative Services and guest Eric Marshall Managing Partner at Blazing The Agency. A briefing note was provided in the meeting materials, and a presentation was made to the Board.

Moved by Cathy Praamsma and seconded by Dan Marinigh that the Board of Governors of Sir Sandford Fleming College receive the proposed plan to re-brand the College under one new inclusive identity for information.

Carried.

12. Sutherland Campus Space Revitalization Plan

The Chair welcomed Sandra Dupret, Vice President, Student Experience are guests Susan Conner, PRISM Partners Inc., and Alex Josephson, PARTISANS Architecture Studio. A briefing note was provided to the meeting materials and a presentation was made to the Board.

Moved by Chandra Gupta and seconded by Don Gillespie that the Board of Governors of Sir Sandford Fleming College receive the Space Revitalization and Project Delivery concept for the Sutherland Campus for information.

Carried.

13. Strategic Enrolment Management Public Plan

Linda Poirier, Vice President, Academic Experience was welcomed for this item. The public document which was included in the meeting materials provides an overview of the relationship between the Strategic and Academic Plans, impacts of COVID-19, results of the Labour Market Information, a snapshot of our current enrolment story and next steps with respect to developing a quantitative Strategic Enrolment Plan.

Moved by Nicole Grady and seconded by Marg Cox that the Board of Governors of Sir Sandford Fleming College receive for information the Strategic Enrolment Public Plan.

Carried.

14. Final Winter Enrolment Report

The Chair welcomed Roni Srdic, Registrar and Drew Van Parys, Vice President, Economic & Community Development and Acting Vice President, Corporate Services and CFO. The enrolment report as of Day 10 of the Winter term was included in the meeting materials. The report presented at the January 27, 2021 meeting was an interim report as Day 10 was January 29, 2021.

Moved by Don Gillespie and seconded by Paul Downs that the Board of Governors of Sir Sandford Fleming College receive the Final Winter 2021 Enrolment Report for information.

Carried.

15. Quality Assurance Dashboard

The Chair welcomed Linda Poirier, Vice President, Academic Experience and Molly Westland, Dean, School of Health and Wellness. The Quality Assurance Dashboard details the College's progress in the past quarter. The College continues to make progress towards the goals of the improvement plan and remains positioned well for its next audit in 2023.

Moved by Chandra Gupta and seconded by Ben Currelly that the Board of Governors of Sir Sandford Fleming College receive the OCQAS Quality Audit Improvement Plan Progress Report - February 2021 for information.

Carried.

16. Frost Student Association & Student Administrative Council Financial Statements

At the Finance & Audit Committee meeting of March 8, 2021, the financial statements for both the Frost Student Association & the Student Administrative Council were received for information and are now being presented to the Board.

Moved by Don Gillespie and seconded by Nicole Grady that the Board of Governors of Sir Sandford Fleming College receive the Frost Student Association & Student Administrative Council Financial Statements for information.

Carried.

17. Board Chair Report

The Board Chair provided a verbal report.

Moved by Fred Clifford and seconded by Paul Downs that the Board of Governors of Sir Sandford Fleming College receive the March 2021 verbal Board Chair report for information.

Carried.

18. President's Report

The President's report, provided in the meeting package, was reviewed and included a summary of key updates and events since the January 2021 meeting.

Moved by Chandra Gupta and seconded by Don Gillespie that the Board of Governors of Sir Sandford Fleming College receive the March 2021 President's report for information.

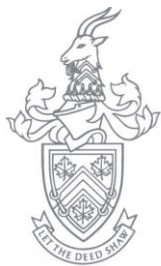
Carried.

19. Other Business

No other business.

Adjournment

The public meeting of March 24, 2021 was adjourned at 12:23 p.m.



Board of Governors

Briefing Note



FLEMING

Topic: Motive Power Technician – Recreational and Sport Vehicles
Report To: Public Board Meeting
Meeting Date: May 26, 2021
Prepared By: Pam Stoneham, Dean School of Trades and Technology

Recommendation

That the Board of Governors of Sir Sandford Fleming College approve the proposed new program, Motive Power Technician – Recreational and Sport Vehicles.

Overview

- The School of Trades and Technology is proposing a five semester Ontario College Diploma program in Motive Power Technician – Recreational and Sport Vehicles (Optional Co-op).
- This program has been designed in close partnership with local marine, aircraft, recreational vehicle (RV) and power sports businesses and is endorsed by provincial and national industry associations.
- This hands-on five-semester program will offer students an optional co-op in semester three and mandatory Level 1 In-school Apprenticeship training in Small Engine Technician - 435A, Marine Engine Technician - 435B, Turf Equipment Technician - 421C, and Recreational Vehicle Technician - 690H.
- The manufacturing, refurbishing and repair of marine, aircraft, RV and sport vehicles has increased in the Peterborough and surrounding area over the past several years. It has seen a recent sharp increase due to the COVID-19 pandemic. As reported by local businesses, the industry has experienced severe regional labour market shortages. In fact, the Recreation Vehicles Dealers Association of Canada (RVDA) states that their industry is in dire need of additional RV service technician training, especially in Ontario.
- This program will provide graduates with a breadth of skills that will allow them to be competitive in the labour market in four transportation sectors.
- There are no programs in Ontario that offer this type of training. The proposed Motive Power Technician – Recreational and Sport Vehicles Ontario College Diploma (Optional Co-op) will provide graduates with a breadth of skills that will fill this labour market void locally and provincially.
- Like Fleming College's Aquaculture program, this new diploma program will differentiate us from the other Ontario colleges.

Cost/Benefit Analysis

- Total cost to develop this new program is \$416,061
- The projected enrolment and anticipated revenue for Years 1 through 3

	Year 1	Year 2	Year 3
Enrolment (Domestic)	38	109	177
Anticipated Revenue	(\$57,354.59)	\$247,515.01	\$384,390.63

Alignment with Fleming College's Strategic Direction and the Strategic Mandate Agreement

This new program aligns with our **Strategic Plan 2019-2024** priorities of:

- *Focusing on the needs of students and employers in the labour market:* There is an identified labour market need for graduates with this training and the program has been designed to ensure student retention and success.
- *Being true partners with our community:* The program has been designed in close collaboration with local businesses of four transportation sectors, a local secondary school Instructional Leadership Consultant, Peterborough & the Kawartha Economic Development, and provincial and national transportation associations.
- *Welcoming place for all:* The program will be the first program in the Schools of Trades and Technology that will offer the Indigenous Perspectives Designation. The program will also be marketed to mature students and Indigenous students who are wishing to retrain or upskill to gain employment.

This program aligns with the first three strategic priorities of the 2019-2024 Jobs First **Academic Plan**.

- *Responding to the Needs of the Labour Market:* Graduates of this program will find employment opportunities in one of four industry areas upon graduation: aircraft, marine, recreational vehicle or small engine interior maintenance and repair. The added co-op opportunity will also help with the labour shortage.
- *Ensuring Students have the Skills & Experience they Need:* Students will be well-equipped with soft skills with courses in communication, calculations (math), and computer skills. This program will include the technical skills required in the field in all four areas of transportation maintenance and it will have the requisite skills for employment in these industries. The co-op option is another means to ensure graduates have the skills and experiences needed to obtain employment upon graduation.

Aligns with **Business Plan 2020-2021** objectives:

- Objective 5.2.1 - Increase the number of programs with Indigenous Perspectives Designation by 5 programs of the Fleming College Business Plan 2020-2021. This program will be the first program within the School of Trades and Technology to offer this designation.

The program contributes to three **SM A3** performance metric: *Apprenticeship-related, Graduate Employment Rate in a Related Field and Experiential Learning*

Risks and Considerations

☐ External Environment ☐ Internal Environment ☐ Financial ☐ Human Resources
☐ Information Technology ☐ Legal ☐ Operational ☐ Strategic ☐ N/A

Check any of the applicable risks above by double clicking on the box and selecting Checked from the default value. If there no applicable risks check N/A.

Include any additional considerations below:

- This program does not anticipate interest from international students.
- The Business Case Costing includes leased space from Loomex at the Peterborough Airport for shop delivery. This continues the relationship with Loomex that started in February 2020 with the MLTSD Skills Advance Ontario Altitude program.
- The Business Case Costing includes all capital equipment required to launch the program. There is a strong probability that donations from industry partners will offset the capital costs. During the last Reference Group meeting, a partner asked how they can assist.

Supporting Documentation

Include the file names of any supporting documentation below:

- MPT Business Case

BUSINESS CASE

Motive Power Technician – Recreational and Sport Vehicles (Optional Co-op)

Date:	May 26, 2021		
Board of Governors:	<input checked="" type="checkbox"/> Decision		
Proposed By:	Pam Stoneham, Dean		
School of Study:	School of Trades and Technology		
Proposed Launch Date:	Fall 2022		
Offering:	<input checked="" type="checkbox"/> Full-Time <input type="checkbox"/> Part-Time		
Student Enrolment Target (sem 1):	YEAR 1 = 20	YEAR 3 = 60	YEAR 5 = 60
New Faculty Resources:	1 Full-time faculty in year 2		
Semesters / Hours:	5 Semesters / 1635 Hours		
Applied Learning Method(s):	<input type="checkbox"/> Applied Project <input checked="" type="checkbox"/> Co-op/Placement <input checked="" type="checkbox"/> Other		
First Graduating Class:	Class of 2024		
Credential Ontario College (OC):	<input type="checkbox"/> OC Certificate <input type="checkbox"/> OC Graduate Certificate <input checked="" type="checkbox"/> OC Diploma <input type="checkbox"/> Certificate (Local Board Approved) <input type="checkbox"/> OC Advanced Diploma		
Program Mapping:	Appendix I: Validation Documents		
Career Opportunities:	Aircraft Patternmaker, Recreation Vehicle Technician, Marine Repair Technician, Small Equipment Repairer, Gasoline Powered Lawn Mower Repairer, Lawn and Garden Equipment Technician, Small Engine Technician, Small Equipment Mechanic Apprentice, Automobile Upholsterer, Custom Upholsterer, Upholstery Repairer, Aircraft Interior Technician		
Proposed Tuition (per Semester):	\$1,512.57 (Domestic); \$6,775.00 (International)		
Program Start-up Cost:	\$391,061.11		
Incremental Costs:	YEAR 1 = \$205,698.86	YEAR 3 = \$515,527.95	YEAR 5 = \$586,712.33
Net Income:	YEAR 1 = -\$201,849.59	YEAR 3 = -\$288,651.87	YEAR 5 = -\$313,912.89
OCQAS Program Validation	<input checked="" type="checkbox"/> Approved APS Number: FLEM01315 Validation Date: March 16, 2021		
MCU Code(s):	56405		
NOC Code(s):	7335-Small Engine Technician & Turf Equipment Technician; 7384 tradespersons and related, not classified; 6345 Upholsterers		
CIP Code(s):	47.0606 Small Engine Repair Technology/Technician; 47.0607 Airframe Mechanics & Aircraft Maintenance Technology/Technician; 47.0616 Marine Maintenance/Fitter & Ships Repair Technology/Technician; 47.0618 Recreation Vehicle (RV) Service Technician		

Endorsed

☐ Academic Council ☒ Program Advisory or Reference Group ☒ Senior Management Team
☒ Strategic Enrolment Management ☐ Other: _____

Acknowledgements

Thank you to the members of our Motive Power Technician – Recreational and Sport Vehicles for their dedication and excellent work in engaging the college community in consultations, research, writing, and responding to feedback. Over the course of our planning and approval process this team involved Pam Stoneham, Katie Surra, Paul Jordan, Mary Overholt, Carmen Gelette, Jason Dennison, Kris McBride, and members of the Motive Power Technician reference group: Carly Poole from Buckeye Marine, Kate Ahrens from Flying Colours Corp., Stacey Robinson from Great Canadian RV Ltd., Mark Bridgen from M.C. Power & Sport, Erin MacKenzie from Kawartha Pine Ridge District School Board, Rhonda Keenan from the Peterborough & the Kawarthas Economic Development, Rick Layzell from the Ontario Boating Association, and Eleonore Hamm from Recreation Vehicle Dealers Association of Canada.

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1. Executive Summary

The School of Trades and Technology is proposing a new Motive Power Technician – Recreational and Sport Vehicles (Optional Co-op) Ontario College Diploma. This unique hands-on five-semester program will offer students an optional co-op in semester three and mandatory Level 1 In-school Apprenticeship training in Small Engine Technician - 435A, Marine Engine Technician - 435B, Turf Equipment Technician - 421C, and Recreational Vehicle Technician - 690H. This program will provide graduates with a breadth of skills that will allow them to be competitive in the labour market in four transportation sectors. The addition of apprenticeship training will also allow graduates to pursue apprenticeship training when they are employed in these industries.

This program has been designed in close partnership with local marine, aircraft, recreational vehicle (RV) and power sports businesses. The program has also been endorsed by provincial and national industry associations who are keen to work in partnership with the School of Trades and Technology to market and support the delivery and implementation of the new program. Lastly, the curriculum was also developed in collaboration with Fleming College's Academic Chair, Indigenous Perspectives, and Kawartha Pine Ridge District School Board's Instructional Leadership Consultant

The manufacturing, refurbishing and repair of marine, aircraft, RV and sport vehicles has increased in the Peterborough and surrounding area over the past several years and has especially seen a recent sharp increase due to the COVID-19 pandemic. As reported by local businesses, the industry has experienced severe regional labour market shortages. In fact, the Recreation Vehicles Dealers Association of Canada (RVDA) states that their industry is in dire need of additional RV service technician training, especially in Ontario. There are no programs in Ontario that offer this type of training and the proposed Motive Power Technician – Recreational and Sport Vehicles Ontario College Diploma (Optional Co-op) will provide training that will help to fill this labour market void locally and provincially. Similarly, the Ontario RV Dealers Association (ORVDA), also recognizes shortages of qualified Recreation Vehicle technicians in our region and welcomes a partnership with Fleming College to provide training.

This program aligns strongly with three commitments of the Fleming College Strategic Plan 2019-2024. First, the program will support the needs of graduates and employers in the labour market. There is an identified labour market need for graduates with this training and the program has been designed to ensure student retention and success. Secondly, the program has been designed in close collaboration with local businesses of four transportation sectors, a local secondary school Instructional Leadership Consultant, Peterborough & the Kawarthas Economic Development, and provincial and national transportation associations. The breadth and depth of community support is strong and supports our commitment to be true partners with our community. Lastly, the program will be the first program in the Schools of Trades and Technology that will offer the

Indigenous Perspectives Designation as well as be marketed to mature students and Indigenous students who are wishing to retrain or upskill to gain employment. This will support our commitment to be a welcoming place for all.

This program will help to establish a new programming area for Fleming College and will intertwine postsecondary and apprenticeship training. Because this is a new programming area, startup costs will be high. However, the addition of several Level 1 Apprenticeship training in the program will increase the ability of the School to offer additional apprenticeship training and thus new avenues of revenue. It is also important to note that the contribution to overhead will consistently be in the 42-45% range from years 2 through 5.

In closing, this program is unique in Ontario. No other college program trains student in all these transportation sectors in motive power. In addition, the program will include in-school apprenticeship training, an optional co-op semester and the opportunity to complete the Indigenous Perspectives Designation. Lastly, the development of this program concept has been a true college, community, and industry effort that will strengthen Fleming College's reputation locally, regionally, and Canada-wide.

2. Program Description

The Motive Power Technician – Recreational and Sport Vehicles (Optional Co-op) delivered by the School of Trades and Technology will be an Ontario College Diploma offering. This five-semester program will have four semesters of in-school training with an optional co-op term offered in semester three. The curriculum developed in the first two semesters will give students the necessary skills and knowledge for a successful co-op. The program will include lectures, seminars, hands-on labs, and some blended (online) delivery.

This program will teach students the skills and knowledge they need to work in various sectors of the transportation and machinery sectors including aircraft, marine, recreation vehicles and the small engines industry. Upon successful completion of the technician program, students will have completed the in-school portion of Level I apprenticeships in Small Engine Technician - 435A, Marine Engine Technician - 435B, Turf Equipment Technician - 421C and Recreational Vehicle Technician - 690H. Further on-the-job training would allow students to complete any or all of these if they are hired as apprentices after graduation. Students will also complete their RV-2 LPG Certification (Recreational Vehicle Technician - 690H) which is required for students to advance to Level 2 of this apprenticeship.

Admission requirements for this program will be an Ontario Secondary School Diploma (OSSD) or equivalent, mature student status. In addition to high school graduates, the program will be marketed to Indigenous and mature students wishing to reskill.

Table 1: Motive Power Technician Ontario College Diploma (mapped to MCU code 56405)			
Semester	Course Code	Course Name	Hours
1	NEW 1	Introduction to Trade Calculations	45
1	NEW 2	Fuel and LPG Systems	60
1	NEW 3	Tools and Equipment I	45
1	NEW 4	Blueprints and Diagrams I	30
1	NEW 5	Health and Workplace Safety	45
1	NEW 6	Fastening and Mounting / Sealing Techniques	45
1	NEW 7	Materials and Processes I	45
Total Semester 1 hours: 315			
2	NEW 8	Braking, Transmission and Auxiliary Drive Systems	45
2	NEW 9	Electrical and Electronics I	45
2	NEW 10	Tools and Equipment II	45
2	NEW 11	Engine Systems	60
2	GNED 49	Introduction to Indigenous Studies	45
2	NEW 12	Upholstery I	45
2	APST 154	Co-op Preparation	30
Total Semester 2 hours: 315			
3	NEW 13	Co-op Placement	420
Total Semester 3 hours: 420			
4	COMM 201	Communications I	45
4	NEW 14	Interior Component Removal Process	45
4	NEW 15	Electrical and Electronics II	45
4	GNED	General Education Elective	45
4	NEW 16	Oxy-Fuel and Welding Techniques	60
4	NEW 17	Materials and Processes II	45
Total Semester 4 hours: 285			
5	NEW 18	Workplace Communication and Control Systems	30
5	NEW 19	Construction and Appearance	30
5	NEW 20	Water and Climate Control Systems	60
5	NEW 21	Upholstery II	45
5	NEW 22	Interior Component Installation Process	45
5	NEW 23	Electrical and Electronic Systems III	45
5	GNED	General Education Elective	45
Total Semester 5 hours: 300			
Total Program Hours: 1635			

More detailed curriculum information including vocational learning outcomes and course descriptions may be found in Appendix I: Validation Documents and Appendix II: MCU Program Delivery Information (PDI).

3. Fleming College Strategic Alignment

3.1. Alignment with Fleming College Strategic Plan

This program aligns strongly with three of the five commitments of the Fleming College Strategic Plan 2019-2024. First, this program aligns with the first commitment of the strategic plan in being focused on the needs of students and employers in the labour market. This program is unique in the Ontario College System and offers training that will supply the labour needs of four sectors of the transportation industry: aircraft, recreational vehicle, marine, and small engine. Regionally, the aircraft industry is seeing growth and students, as graduates or co-op students, will provide needed skill sets for employers now and in the future. Flying Colours Corp., an industry leader in aircraft maintenance repair and overhaul, is expanding its capacity with the development of its new \$35 million facility expansion, which will require more skilled workers with a variety of skills related to motive power technician. Furthermore, the Southern Ontario Airport authority, a group of 12 regional commercial airports, has also prioritized the need for more awareness of economic opportunities to grow the aerospace sector, which will increase the opportunities for business investment and attraction, including aircraft interior maintenance. The proposed program will provide training to support this intended growth in the aviation sector.

Peterborough and the Kawarthas is a well-known tourist area and many industries in the area support the tourist economy. More specifically, marine, recreational vehicle, and small engine maintenance and repair are a focus for many businesses in this area. There are twelve major RV centres in the region (Google search; March 20, 2020) and the President of the Recreation Vehicles Dealers Association of Canada (RVDA), Eleonore Hamm, states that their industry is in dire need of additional RV service technician training, especially in Ontario. In addition, the Chief Executive Officer of the Ontario Boating Association, Rick Layzell, states, "There is currently only one campus in Ontario offering the Marine Trades Program – Georgian in Midland. For many young people, the costs of attending classes in Midland is insurmountable – unless they live less than 100 KM from campus. Offering an additional solution in the heart of the Kawarthas – a thriving marinas and waterways region, would help meet the demands of our central & eastern Ontario members." Thus, this program will serve the labour needs of these sectors of the transportation industry in our region and provide affordable training to prospective students in our region.

This program will also support the second commitment of the Strategic Plan in being true partners with our communities. The reference group for this program consisted of engaged local members of each transportation sector, as well as support from provincial and national industry associations. There is a strong commitment to continue a partnership with the college as this program is developed, marketed, and delivered. In addition, two major associations have also provided letters of support indicating the need

for this training and the commitment to work with Fleming going forward. Lastly, the optional co-op will continue to enhance these partnerships into the future as this program is delivered.

Lastly, this program will also support the fifth commitment of the Strategic Plan in being a welcoming place for all. The program will be marketed towards Indigenous students, and mature students that wish to reskill or upskill. The development of this program involved the Academic Chair, Indigenous Perspectives, to ensure its relevancy to indigenous communities and as a result, the program will offer the ability to complete the Indigenous Perspectives Designation. This will be the first program in the School of Trades and Technology to offer this designation.

3.2. Alignment with Fleming College Academic Plan

This program aligns most closely with the first two priorities of the Fleming College Jobs First Academic Plan 2019-2024.

Priority 1 - *Responding to the Needs of the Labour Market* is realized as previously described in Section 3.1. Graduates of this program will find employment opportunities in one of four industry areas upon graduation: aircraft, marine, recreational vehicle or small engine interior maintenance and repair. This program will also support the local and regional labour force needs of these four industries. The added co-op opportunity will also help with the labour shortage and will ensure that graduates have the skills and experiences needed to obtain employment upon graduation.

Priority 2 - *Ensuring Students Have the Skills & Experience They Need* will be met in a few ways including the co-op semester. Students will be well-equipped with soft skills with courses in communication, calculations (math), and computer skills. This program will include the technical skills required in the field in all four areas of transportation maintenance and it will have the requisite skills for employment in these industries.

3.3. Alignment with Fleming College Business Plan

This program will specifically satisfy objective 5.2.1 - Increase the number of programs with Indigenous Perspectives Designation by 5 programs of the Fleming College Business Plan 2020-2021. This program will be the first program within the School of Trades and Technology to offer this designation.

3.4. Alignment with Other Fleming College Plans

Lastly, it is not anticipated that this program will appeal to International students significantly.

4. Ministry of Colleges and Universities Funding Approval Requirements

4.1. Alignment with Strategic Mandate Agreement

Alignment with SMA3 Skills & Job Outcomes Priority Area

This program will primarily support the *Apprenticeship-related (institution specific)* performance metric when it comes into effect in 2022-2023. The program will allow for more enrolment into apprenticeship programs through PLAR and securing seats in partnership with other institutions. The program will also support the *Graduate Employment Rate in a Related Field* performance metric in that it will provide graduates with training to obtain employment locally and regionally where labour shortages are being reported. The *Graduation Rate* performance metric will also be supported as the curriculum was designed to ensure success in high school graduates, mature students, and Indigenous students through input from the Academic Chair, Indigenous Perspectives, and the Kawartha Pine Ridge District School Board Instructional Leadership Consultant. Lastly, the addition of a 420-hour co-op semester will support the *Experiential Learning* performance metric.

Impacts on Related Fleming Programming and Pathways

This is a new program area for Fleming and will not have impacts on other programs. This program will enlarge the pool of programs and improve program mix and enrollment in the School of Trades and Technology by intertwining apprenticeship and post-secondary training. This diploma program will include Level 1 In-school Apprenticeship training in Small Engine Technician - 435A, Marine Engine Technician - 435B, and Recreational Vehicle Technician - 690H apprenticeships. The School is planning to pursue partnerships with other colleges to offer training in Level 2 of the Marine Engine Technician – 435B Apprenticeship to broaden the accessibility to apprenticeship training in the Peterborough and Kawartha Lakes region. Additionally, the School is planning to pursue a Training Delivery Agent (TDA) in Recreational Vehicle Technician – 435A.

4.2. Student Demand Analysis

This program will be attractive to high school graduates who want to look at various employment opportunities in a more diverse field of study within the motive power manufacturing and maintenance field. High school graduates or mature learners who may have taken automotive or small engines in high school or enjoy small engines work may find this program attractive as will individuals with a keen interest in aviation, marine or recreational vehicles.

Co-op programs attract individuals with the opportunity for a paid job which may lead to employment after graduation. These aspects of the program will make it attractive to mature students and Indigenous students who will be targeted in the marketing plan.

Statistics from OCAS support this interest. According to the Ontario College Application System (OCAS) a total of 4,233 students applied to aviation/aircraft repair technician programs in Ontario colleges over the years 2014/15 to 2018/19, and 1,312 (31.2%) confirmed their registrations. Confirmed registrations for Marine Technician was 28.9% for the region. Overall registration rates for the Ontario Postsecondary system were 32.1% over the same period.

Graduates from Specialist High Skills Major (SHSM) programs at several local and area high schools will be attracted to this program. Several high schools offer transportation sector specialist programs including high schools in Belleville, Whitby, Oshawa, Pickering and Madoc. Within the local public school board Kawartha Pine Ridge District School Board, Bowmanville High School, East Northumberland Secondary School, and Kenner Collegiate & Vocational Institute offer the Transportation Specialist High Skills Major program. Within the local Catholic school board, Holy Trinity Catholic Secondary School in Clarington offers the Transportation Specialist High Skills Major program. These graduates would be well-suited geographically for this program. Lastly, Holy Cross Catholic Secondary School in Peterborough offers the Aviation and Aerospace Specialist High Skills Major program. Graduates of this high school major program would also likely be interested in this local training opportunity.

This program will complement existing programs in the Skilled Trades area with some common courses. There are no similar programs at Fleming College or in Ontario. Students will have more choice and be better able to align their interests in four different areas of transportation sector.

4.3. Labour Market Analysis

Occupational & Labour Market Trends

The need for skilled labour related to transportation maintenance can be examined by looking at the forecasted demand for specific occupations classified by the National Occupation Classification (NOC) system which include the following: NOC 7335 – Other small engine and small equipment repairers, NOC 7384 – Other trades and related occupations n.e.c., and NOC 6345 – Upholsters.

Other small engine and small equipment repairers (NOC 7335)

Fields of practice for other small engine and small equipment repairers include off-road vehicles repair shops, powered equipment systems repair, lawn equipment dealers, small engine dealership service centres, and municipal and provincial transportation mechanic shops. Occupational growth in Fleming College catchment area is limited with selected demand coming from Peterborough and Muskoka District. Provincially, estimated growth is 9.6% or 1,398 jobs in Ontario by 2026¹. The Government of Canada does, however, project a labour market shortage for other small engine and small equipment repairers in the Muskoka-Kawartha Economic Region (Fleming Catchment

Area) - labour market demand is expected to outpace the availability of skilled labour for this profession. Demand conditions are balanced for Ontario supply of available workers and new graduates to meet replacement demand and business expansion. In terms of automation outlook, there is a high probability that this profession will be impacted by technology change which could alter the types of tasks and specific duties of the job. Wage estimates for new labour market entrants (or new graduates) is \$14.00/hr (10th percentile) with a median annual salary of \$43,680.

Other trades and related occupations n.e.c. (NOC 7384)

Fields of practice for other trades and related occupations include maintenance and repair in marine and recreational vehicle dealerships and centres. Occupational growth in the Fleming College catchment area is limited with selected demand coming from Peterborough and Muskoka Districts. Provincially, estimated growth is 8.1% or 1,997 jobs in Ontario by 2026². In terms of automation outlook, there is a moderate probability that this profession will be impacted by technology change. Wage estimates for new labour market entrants (or new graduates) is \$16.00/hr (10th percentile) with a median annual salary of \$49,920.

Upholsters (NOC 6345)

Fields of practice for upholsters include aircraft maintenance repair and overhaul. Occupational growth in the Fleming College catchment area is limited with selected demand coming from Peterborough and Muskoka Districts. Provincially, estimated growth is 2.3% or 1,546 jobs in Ontario by 2026³. The Government of Canada projects a labour market balance for upholsters in Ontario - labour market demand is expected to meet the availability of skilled labour for this profession. In terms of automation outlook, there is a moderate probability that this profession will be impacted by technology change. Wage estimates for new labour market entrants (or new graduates) is \$14.67/hr (10th percentile) with a median annual salary of \$38,729.

Industry Trends

The recreation vehicle (RV) industry has shown steady sales growth in Canada with a total sales reaching \$3.79 Billion in 2019, up 29.8% from 2010. Furthermore, total non-travel RV expenditures in 2019 reached \$2.69 Billion, of which 37% of these expenditures were on maintenance and repair⁴. According to the Canadian Recreational Vehicle Association, RV shipments are projected to grow by 20% from 423,628 units in 2020 and reach over 500,000 units for 2021⁵, which will increase the demand for RV maintenance and repair.

Flying Colours, an industry leader in aircraft maintenance repair and overhaul, has expended its capacity with the development of its new \$35 million facility expansion, which will require a need for more skilled workers with a variety of skills related to transportation maintenance, including small engine repair and upholsters. The Southern

Ontario Airport Network (SOAN), a group of 12 regional commercial airports, has also prioritized the need for more awareness of economic opportunities to growth the aerospace sector, which will create the opportunities for business investment and attraction, and the need for a labour force to support aircraft maintenance, repair, and overhaul.

For a more detailed information on the labour market, please see Appendix III: Labour Market Information Details. Job postings for each NOC code can also be found in Appendix IV: Job Posting Analytics and Employment Postings.

4.4. Competitor Analysis

Currently, there are sixteen colleges that offer technician programs mapped to MCU code 56405 (Motive Power Technician). Most of these technician level programs specialize in truck or heavy equipment with some specializing in turf equipment or motorcycles. There are six colleges that offer aircraft maintenance programs (Algonquin, Canadore, Centennial, Confederation, Fanshawe and Mohawk Colleges). Georgian College is the only postsecondary institution in Ontario that offers programming in maintenance in the Marine sector. There are no programs that specialize in the maintenance, repair, or interior install/removal in RVs in Ontario.

Based on a review of the current competitive landscape, no college currently offers programming that prepares students for interdisciplinary work in aircraft, marine, recreational vehicles, and small engine maintenance and repair. In addition, there are no private colleges in Ontario offering specific training related to aviation, marine, RV, or small engine repair. The Fleming program will be unique in that it focuses on four areas of transportation maintenance. The optional co-op will also differentiate this program from many of its competitors.

Due to the interdisciplinary nature of this new proposed program, it spans three MCU code training areas: Motive Power Technician (MCU code 56405), Mechanical Technician – Marine (MCU code 55300), and Aviation Technician – Aircraft Maintenance (MCU code 56600). Tables 2 through 4 below show the number of applications and registrations in programs mapped to MCU code 56405, 55300 (in part) and 56600.

The ratio of OCAS applications to registrations in most of these codes, suggests high student interest in programs of this nature. When delving into the data further, the total number of first choice applications (shown in brackets) exceeds the number of registrations for MCU codes 56405 and 56600 suggesting there is not enough seat space for students desiring this training.

Table 2: Total Applications / Registrations by College for Motive Power Technician (MCU code 56405)					
College	2016	2017	2018	2019	2020*
Algonquin**	227/53	206/56	252/72	296/58	317/0
Boreal	17/0	22/7	26/5	4/3	10/1
Cambrian	142/68	180/44	171/58	141/49	132/21
Canadore	76/29	86/22	73/18	61/24	54/11
Centennial	1640/462	1524/459	1482/459	1439/488	1463/455
Conestoga	466/83	396/85	346/68	383/116	438/67
Durham**	168/27	232/44	228/44	246/39	351/48
Fanshawe	534/183	504/182	412/166	332/138	333/179
La Cite**	101/39	72/33	69/37	10/0	0/0
Loyalist**	89/30	100/2	55/0	34/1	45/0
Mohawk	241/110	275/145	293/146	305/112	274/69
Niagara	178/28	159/72	149/71	163/72	177/53
Northern	74/10	76/12	42/18	82/23	69/6
Sault	46/30	25/21	28/16	37/20	22/7
St. Clair	96/46	96/60	74/74	84/50	115/0
St. Lawrence**	76/13	74/36	81/31	62/7	43/0
Total Applications	4171/1211	4027/1280	3781/1283	3679/1200	3843/917
Total First Choice Applications	1580	1510	1437	1431	1510

Source: Fall application and registration data pulled from OCAS Data Warehouse using RPT00411 on December 21st, 2020 – Fall term, end of cycle (note: application counts do not include all international applications)

*possible Covid-19 enrolment impacts

**Colleges in the Eastern Region

Table 3: Total Applications/ Registrations by College for Mechanical Technician – Marine (MCU code 55300)					
College	2016	2017	2018	2019	2020*
Georgian	66/67	72/67	58/59	86/51	76/45
Total	66/67	72/67	58/59	86/51	76/45
Total First Choice Applications	27	32	24	24	39

Source: Fall application and registration data pulled from OCAS Data Warehouse using RPT00411 on December 21st, 2020 – Fall term, end of cycle (note: application counts do not include all international applications)

*possible Covid-19 enrolment impacts

Table 4: Total Applications / Registrations by College for Aviation Technician – Aircraft Maintenance (MCU code 56600)					
College	2016	2017	2018	2019	2020*
Algonquin**	192/27	177/37	194/35	219/33	223/0
Canadore	92/48	114/42	153/48	162/64	133/25
Centennial	494/205	544/191	540/181	575/204	585/184
Confederation	94/34	87/46	95/40	94/42	71/15
Fanshawe	249/3	238/98	240/82	260/73	192/0
Mohawk	372/101	382/101	326/101	371/99	308/78
Total	1493/418	1542/515	1548/487	1681/515	1512/302
Total First Choice Applications	533	657	563	625	583

Source: Fall application and registration data pulled from OCAS Data Warehouse using RPT00411 on December 21st, 2020 – Fall term, end of cycle (note: application counts do not include all international applications)

*possible Covid-19 enrolment impacts

**Colleges in the Eastern Region

A detailed table of all college programs can be found in Appendix V: Competitor Information Details.

5. Community Collaboration

5.1. External Industry Council, Committees or Groups

Letters of support may be found in Appendix VI: Letters of Support.

Council, Committee or Group	Meeting Date(s)	Endorsed (yes/no)
Jobs Council	-	-
Reference Group	Dec. 18, 2020; Jan. 28, 2021; March 1, 2021	yes
Other (Partnership organizations)	-	-

5.2. Reference Group or Program Advisory Committee Members

Member	Position	Organization
Stacey Robinson	Owner	Great Canadian RV Ltd.
Carly Poole	Operations Manager	Buckeye Marine
Mark Bridgen	Owner	M.C. Power & Sport
Kate Ahrens	Director, Corporate Development	Flying Colours Corp.

Erin MacKenzie	Instructional Leadership Consultant, Pathways – Dual Credit, Cooperative Education and OYAP	Kawartha Pine Ridge District School Board
Rhonda Keenan	President & CEO	Peterborough & the Kawarthas Economic Development
Rick Layzell	CEO	Boating Ontario Association
Eleonore Hamm	President	Recreational Vehicle Dealers Association of Canada
Natalie Conway	Executive Director	Ontario RV Dealers Association

5.3. Fleming College Councils and Committees

Council, Committee or Group	Meeting Date	Endorsed (yes/no)
Senior Management Team	Jan. 8, 2020; May 5, 2021	yes
Strategic Enrolment Management	Dec. 4, 2021	yes
Academic Council	-	-
Program Implementation Committee	January 29, 2020	yes
Other	-	-

5.4. Fleming College Board of Governors

Item	Meeting Date	Endorsed (yes/no)
Concept Proposal	January 22, 2020	yes
Business Case	May 26, 2021	

6. Resource Requirements

6.1. Staffing

This program will use existing fulltime and some new contract faculty to develop and teach curriculum requiring specialty training. There is one new fulltime faculty hire budgeted for year 2.

6.2. Information Technology

There are no special IT requirements for this program. There may be some software specific to the marine and RV sectors that will not require significant investment in space or equipment to support.

6.3. Equipment

The program will require safety equipment and specialty tools listed in sub section 6.5 - Capital. It is anticipated that the college will receive donations from our industry and

associations partners which will offset some of these capital purchases. For example, Natalie Conway of the Ontario RV Dealers Association (ORVDA) states in her letter of support, “It is ORVDA’s intention to work with Fleming College and mobilize a team effort with our industry suppliers and partners to supply the essential equipment required to help establish this program.”

6.4. Space

This program will use leased space at The Loomex Group hangar at the Peterborough Airport location on Airport Road. This space is currently being used by the Fleming SAO program Altitude. The college’s partnership with The Loomex Group will be strengthened by continuing this leasing to include this new program.

6.5. Capital

Capital costs totaling \$309,081.10 are budgeted for program start up. Some of these costs may be avoided with donations of equipment from industry and associations partners. The capital list includes the following:

- 149 Hand tools
- Live trainers
- Power tools
- Precision & diagnostic equipment
- Related equipment

7. Financial Analysis

7.1. Incremental Costing Summary

For more detailed information, please see Appendix VII: Incremental Costing Summary Details.

Description	Class of '22 (Year 1)	Class of '23 (Year 2)	Class of '24 (Year 3)	Class of '25 (Year 4)	Class of '26 (Year 5)
Incremental Revenues	\$52,879.27	\$156,136.02	\$251,876.08	\$297,799.44	\$297,799.44
Incremental Costs	\$205,698.86	\$323,093.51	\$515,527.95	\$573,990.60	\$586,712.33
Net Investment	\$49,030.00	-	\$25,000.00	\$25,000.00	\$25,000.00
NET INCOME	-\$201,849.59	- \$166,957.49	- \$288,651.87	- \$301,191.16	- \$313,912.89

7.2. SMA 3 Funding Performance Metrics Assessment

As discussed in more detail in sub section 4.1 - Alignment with Strategic Mandate Agreement, this program will have a positive effect on SMA3 Apprenticeship-related (institution specific), Graduate Employment in a Related Field, Graduation Rate and Experiential Learning performance metrics.

7.3. Program Costing Assumptions

The costing assumes that the program will have one intake per year in the fall, retention rates of 90% between semesters, and section sizes of 20 with lectures of 80 and seminars of 40. More specifically, there will be one section of 20 semester one students in year 1, two sections of 20 for a total of 40 semester one students in year 2, and three sections of 20 for a total of 60 semester one students for year 3 and beyond. Lastly, costing also assumes one new fulltime faculty hire starting year 3 and includes the space leasing costs at Peterborough Airport.

7.4. Financial Risks

Financial risks include low enrolment and loss of The Loomex Group rental space.

7.5. Countermeasures

The risk of low enrolment will be mitigated by targeting high schools that offer High Skills Specialist Majors in Transportation. In addition, marketing to indigenous communities and mature students through member association partnerships (RV and marine trade shows by associations) will help to mitigate low enrolment.

Also, capital costs include equipment and supplies may be mitigated by donations from industry and association partnerships.

8. Quality Assurance

Fleming College is committed to quality assurance processes that promote excellence in the development, design, delivery, and ongoing review of new and existing academic programs. Mechanisms are in place to demonstrate accountability to Fleming College students, the Board of Governors, the Ministry of Training, Colleges and Universities, and the communities we serve that will ensure all academic program meet or exceed the relevant quality standards including an ongoing and systematic program review process. *(See College Policy #2-213: Program Quality Assurance)*

9. Conclusion / Recommendation

THAT the Board of Governors of Sir Sandford Fleming College approve the Motive Power Technician – Recreational and Sport Vehicles Ontario College Diploma (Optional Co-op) program for launch in September 2022.

10. References

- ¹ Economic Modelling Inc. (2021). *Occupational summary for 7335 Other small engine and small equipment repairers*. Retrieved from <https://www.economicmodeling.com>.
- ² Economic Modelling Inc. (2021). *Occupational summary for 7384 Other trades and related occupations n.e.c.*, Retrieved from <https://www.economicmodeling.com>.
- ³ Economic Modelling Inc. (2021). *Occupational summary for 6345 Upholsters*. Retrieved from <https://www.economicmodeling.com/>.
- ⁴ The Portage Group. (2020, June). Economic impact of the Canadian recreational vehicle industry. Retrieved from Economic Impact of the Canadian Recreation Vehicle Industry (rvda.ca).
- ⁵ Canadian Recreational Vehicle Association. (2020, December 1). RV shipments projected to eclipse 500,000 units in 2021. Retrieved from <https://crva.ca/category/industry-news>.

11. Appendices

11.1. Appendix I: Validation Documents



Ontario College Quality Assurance Service
Service de l'assurance de la qualité des
collèges de l'Ontario

*Suite 606 - 130 Queens Quay East,
Toronto, ON, M5A 0P6*

Program Validation Decision

We have completed our validation of your application for the Motive Power Technician - Recreational and Sport Vehicles program submitted to us on March 16, 2021 and leading to the conferring of an Ontario College Diploma.

Please accept this as our validation of your proposal. As a signal of our validation decision, we have assigned the following Approved Program Sequence (APS) number to your program: FLEM01315.

A copy of this validation decision is being sent to the Ministry of Colleges and Universities (MCU) for their information and records.

However, in keeping with the MCU process for college program funding approvals, we have not sent your documents to the Ministry. Please be advised that you need to submit the documentation directly to the Ministry to complete the approval for funding request, if applicable.

The required documents for the Ministry's funding approval decision are the Board Attestation form, signed by your college president, the Program Delivery Information (PDI) form, and the completed Application for Program Validation form (CVS).

The Ministry will reply separately to your request for funding approval of your program.

Sincerely,

Sara Barnes
March 16, 2021



Ontario College Quality Assurance Service
Service de l'assurance de la qualité des
collèges de l'Ontario

Motive Power Technician - Recreational and Sport Vehicles

Validated

Standard

Fleming College | APS # FLEM01315 | MTCU # 56405
Ontario College Diploma | Full-time funding requested

Purpose

Maintenance of transportation equipment is a necessary investment for organizations that operate in the transportation sector, or those that rely on transportation systems to add value to their businesses. The Motive Power Technician – Recreational and Sport Vehicles diploma program will prepare graduates to work in four streams of the transportation sector: Aircraft, Marine, Recreational Vehicle (RV) and Small Engines. The graduate will be prepared to work on the interior (installation/removal of components), electrical components, and water systems of recreational and sport vehicles, as well repair and maintain engines and engine components. Included in the program of study is a focus on safety, safety requirements, standard industry practices and required documentation, and meeting regulatory requirements.

Admission Requirements

Ontario Secondary School Diploma (OSSD) or equivalent, mature student status

Occupational Areas

This program prepares graduates to maintain and repair aircraft, marine, recreational vehicles (RV), and small engines (motorcycles, ATVs, etc.). Specific occupations include the following: Small Engine Technician (NOC 7335), RV and Marine Technician (NOC 7384), and Aircraft Interior Technician (NOC 6345). The combined growth for all three occupations in Fleming College catchment area from 2018 to 2026 is estimated at 10.5% . Provincially, estimated growth is about 7.9% or 352 jobs for the same

reference period.

Laddering Opportunities

Graduates of Fleming's Motive Power Fundamentals – Recreational and Sport Vehicles Ontario College Certificate will receive advanced standing into semester 3 of this diploma program.

Graduates of this program would be well suited in related transportation programs such as train and coach interior repair, Heavy Equipment Technician, and automotive restoration.

Program VLOs

1. analyse, diagnose*, and solve various motive power system problems by using problem-solving and critical thinking skills and strategies and by applying fundamental knowledge of motor vehicle operation, components, and their interrelationships.
2. diagnose* and repair climate control systems in compliance with manufacturers' recommendations.
3. diagnose* and repair engine systems in compliance with manufacturers' recommendations.
4. diagnose* and repair electrical, electronic, personal safety, and emission components and systems in compliance with manufacturers' recommendations.
5. diagnose* and repair drive train components and systems in compliance with manufacturers' recommendations.
6. diagnose* and repair suspension, steering, and brake components and systems in compliance with manufacturers' recommendations.
7. disassemble and assemble components to required specifications by applying workshop skills and knowledge of basic shop practices.
8. select and use a variety of troubleshooting techniques and test equipment to assess electronic circuits, vehicle systems, and subsystems.
9. apply knowledge of hydraulics and pneumatics to the testing and analysis of motive power systems and subsystems.
10. communicate information effectively, credibly, and accurately by producing supporting documentation to appropriate standards.
11. use information technology and computer skills to support work in a motive power environment.
12. prepare, support, maintain, and communicate data from log, record, and documentation systems.

13. apply business practices, project management skills, and communication skills to improve customer service.
14. assist in quality-control and quality-assurance programs and procedures.
15. develop and use personal and professional strategies and plans to improve professional growth, job performance, and work relationships.
16. complete all assigned work in compliance with occupational, health, safety, and environmental law; established policies and procedures; codes and regulations; and in accordance with ethical principles.
17. diagnose and repair fuel systems to ensure compliance with manufacturers' recommendations.
18. perform heating, cutting, and welding techniques to repair and manufacture recreational transportation components in accordance with gov't safety regulations, manufacturers' recommendations and specifications and approved industry standards.
19. detail (clean, restore, and polish) various small engine, aircraft, marine, and RV components to enhance appearance while adhering to manufacturers' specifications.

Curriculum

- **NEW 1 - Introduction to Trade Calculations**

- > Semester 1 | 45 hours

- This course will enable students to develop and enhance foundational mathematical concepts while advancing their numeracy skills important in various Trades, such as Welding and Carpentry. It is designed to prepare students for success in Trades Calculations I.

- **NEW 2 - Fuel and LPG Systems**

- > Semester 1 | 60 hours

- This course will introduce students to the skills required to interpret safety and equipment requirements in the workplace. Students will also learn how to service gasoline engine fuel systems including identification and description of fuel lines and fittings, governors and control systems, service intake, exhaust systems, and emission systems. Students will demonstrate a working knowledge of the purpose, applications, scientific principles, and equipment used in LPG Systems in accordance with government safety regulations, manufacturer recommendations and specifications, and approved industry standards.

- **NEW 3 - Tools and Equipment I**

- > Semester 1 | 45 hours

- This course will introduce the student to the skills required to demonstrate a working knowledge of the types, construction, principles of operation, maintenance, and safe workplace usage of hand and power tools. Students will be able to identify, use and perform maintenance procedures for

tools and equipment in accordance with government safety regulations, approved industry standards and equipment manufacturers' recommendations and specifications.

- **NEW 4 - Blueprints and Diagrams I**

- > Semester 1 | 30 hours

- This course will introduce the student to the skills required to demonstrate a working knowledge of the purpose, types, lines, symbols, abbreviations and the interpretation of a variety of trade related workplace charts and blueprints including electrical wiring diagrams in accordance with government safety regulations, manufacturers' recommendations and specifications and approved industry standards.

- **NEW 5 - Health and Workplace Safety**

- > Semester 1 | 45 hours

- This course will introduce the student to workplace safety in accordance with current legislation (O.H.S.A.) and health and safety procedures used in the industry. Students will be able to describe workplace hazards and identify the fundamentals of safe work practices including PPE, WHIMIS, hoisting/rigging and blocking in accordance with government safety regulations and approved industry standards.

- **NEW 6 - Fastening and Mounting / Sealing Techniques**

- > Semester 1 | 45 hours

- This course will introduce the student to the skills required to demonstrate a working knowledge of the purpose, construction, the principles of fastening and mounting devices and describe the application of sealing techniques with emphasis on the Marine and Small Engine industry in accordance with government safety regulations, approved industry standards and equipment manufacturers' recommendations and specifications.

- **NEW 7 - Materials and Processes I**

- > Semester 1 | 45 hours

- This course will introduce the student to the skills required to demonstrate a working knowledge of the basics in repair and/or modifications of materials used in Marine, Small Engine, RV and the Aircraft industry. Students will work in accordance with government safety regulations, manufacturers' recommendations and specifications and approved industry standards.

- **NEW 8 - Braking, Transmission and Auxiliary Drive Systems**

- > Semester 2 | 45 hours

- This course will introduce the student to the skills required to define the fundamentals of clutch systems and components, gear theory, repair manual shift boxes, describe the maintenance procedures for final drive units and attachments and explain mechanical braking system fundamentals in accordance with government safety regulations, manufacturers' recommendations and specifications and approved industry standards.

- **NEW 9 - Electrical and Electronics I**

- > Semester 2 | 45 hours

- This course will introduce the student to the skills required to demonstrate a working knowledge of

the purpose, applications, scientific principles, and equipment used in electrical and electronic systems with emphasis on the Marine and Small Engine industry. The student will be able to identify and describe electrical and electronic systems in accordance with government safety regulations, manufacturers' recommendations and specifications and approved industry standards.

- **NEW 10 - Tools and Equipment II**

> Semester 2 | 45 hours

This course will introduce the student to the skills required to demonstrate a working knowledge of the purpose, construction, principles of operation, and maintenance of precision measuring tools and diagnostic equipment including the knowledge to test and diagnose lead acid batteries in accordance with government safety regulations, manufacturer recommendations and specifications and approved industry standards.

- **NEW 11 - Engine Systems**

> Semester 2 | 60 hours

This course will introduce the student to the skills required to test, service, and maintain engine assemblies, test and describe maintenance procedures for engine lubrication systems, test and describe maintenance procedures for engine cooling systems, and describe seasonal storage techniques of marine and small powered equipment in accordance with government safety regulations, manufacturer recommendations and specifications and approved industry standards.

- **GNED 49 - Introduction to Indigenous Studies**

> Semester 2 | 45 hours | *General Education*

This course is an introduction to the study of Indigenous (First Nations, Métis, and Inuit) peoples in Canada. Students will explore the complex historical and contemporary relationships between Indigenous and non-Indigenous peoples. The course will also guide students to begin to understand the diversity and depth of Indigenous societies, worldviews, and knowledge through a multi-disciplinary lens.

- **NEW 12 - Upholstery I**

> Semester 2 | 45 hours

This course will introduce the student to the skills required for designing and fabricating interior components of the Aircraft, Marine and RV industry. Upholstery skills including material sewing, fabrication of seat coverings, window coverings, curtains, floor covering will be discussed following safety standards, regulations and proper procedures and processes used in the aircraft, marine and RV industry.

- **APST 154 - Co-op Preparation**

> Semester 2 | 30 hours | *Elective*

This course is designed to equip students with the skills needed for their work search and to develop and enhance career planning skills. Students will learn how to write competitive job search documents, interview with confidence, and will develop and use their career portfolio as a tool to identify and incorporate career goals into the job search process.

- **NEW 13 - Co-op Placement**
 - > Semester 3 | 420 hours | *Elective*
 - Students will have the opportunity to complete a 420-hours (15 week) co-op work experience in a related field. This co-op work experience will allow students to apply the skills they have developed in the program thus far.
- **COMM 201 - Communications I**
 - > Semester 4 | 45 hours
 - Communications I is an introductory course that provides a foundation in college-level communications by teaching students to read critically, write appropriately for a variety of audiences, conduct and cite research, and revise for clarity and correctness. In seminars and labs, students will engage in both independent and collaborative activities, including the development of a digital portfolio designed to help them become more effective communicators in academic and professional environments.
- **NEW 14 - Interior Component Removal Process**
 - > Semester 4 | 45 hours
 - This course will introduce the student to the proper processes used in the removal of interior components in the aircraft, marine and RV industry. Removal of the interior components includes photography, documentation, inspection and assessment of the condition of each component. Component removal, assessment of repair, modification, replacement and/or fabrication methods will adhere to all aircraft, marine and RV industry safety standards and regulations.
- **NEW 15 - Electrical and Electronics II**
 - > Semester 4 | 45 hours
 - This course will expand the skills required to demonstrate a working knowledge of the purpose, types, operating principles, inspection, diagnosis, and repair of electrical and electronic systems.
- **GNED 2 - General Education Elective**
 - > Semester 4 | 45 hours | *Elective | General Education*
 - Students will choose a general education elective course.
- **NEW 16 - Oxy-Fuel and Welding Techniques**
 - > Semester 4 | 60 hours
 - This course will introduce the student to the skills required to perform basic heating, cutting, and welding techniques in the Marine, Small Engine and RV industry in accordance with government safety regulations, approved industry standards, and manufacturer recommendations and specifications.
- **NEW 17 - Materials and Processes II**
 - > Semester 4 | 45 hours
 - This course will expand student skills required and working knowledge of the basics and complex repairs and/or modifications of materials used Marine, Small Engine, RV and the Aircraft industry. Students will work in accordance with government safety regulations, manufacturers' recommendations and specifications and approved industry standards.

- **NEW 18 - Workplace Communication and Control Systems**
> Semester 5 | 30 hours
This course will introduce students to the skills required to demonstrate effective communication and customer relation techniques. Students will also learn to identify the fundamentals of accessing workplace information for parts, and warranty control systems demonstrating a working knowledge of the purpose, functions, and usage of a personal computer in accordance with government safety regulations and approved industry standards.
- **NEW 19 - Construction and Appearance**
> Semester 5 | 30 hours
This course will introduce the student to the skills required to demonstrate a working knowledge of the purpose, components, operating principles, inspection and performance of detailing RVs and the purpose, construction, principles of operation, inspection, diagnosis, and repair of tires, wheels, and rims.
- **NEW 20 - Water and Climate Control Systems**
> Semester 5 | 60 hours
This course will introduce the student to the skills required to demonstrate a working knowledge of the equipment used in plumbing systems, including the purpose, construction, principles of operation, inspection, diagnosis and repair of plumbing systems and the purpose, applications, scientific principles and equipment used in heating, refrigeration and air conditioning systems.
- **NEW 21 - Upholstery II**
> Semester 5 | 45 hours
This course will expand on the skills required for designing and fabricating interior components of the Aircraft, Marine and RV industry. Upholstery skills including material sewing, fabrication of seat coverings, window coverings, curtains, floor covering will be discussed following safety standards, regulations and proper procedures and processes used in the aircraft, marine and RV industry.
- **NEW 22 - Interior Component Installation Process**
> Semester 5 | 45 hours
This course will introduce the student to the proper processes used in the installation of interior components in the aircraft, marine and RV industry. Installation of the interior components will build on the skills acquired in the Removal Process and utilize photographs, documentation and manufacturers manuals to install components. Assessment, component installation, modification and fabrication methods will adhere to all aircraft, marine and RV industry safety standards and regulations.
- **NEW 23 - Electrical and Electronic Systems III**
> Semester 5 | 45 hours
This course will expand the skills required to demonstrate a working knowledge of the purpose, types, operating principles, inspection, diagnosis and repair of electrical and electronic systems.
- **GNED 3 - General Education Elective**
> Semester 5 | 45 hours | *Elective | General Education*

Students will choose a general education elective course.

VLO Mapping

	VLO 1	VLO 2	VLO 3	VLO 4	VLO 5	VLO 6	VLO 7	VLO 8	VLO 9	VLO 10	VLO 11	VLO 12	VLO 13	VLO 14	VLO 15	VLO 16	VLO 17	VLO 18	VLO 19
NEW 1	X																		
NEW 2	X						X	X			X					X	X		
NEW 3				X	X	X	X	X	X							X	X		
NEW 4				X							X								
NEW 5		X	X	X	X	X	X			X	X	X		X		X	X	X	X
NEW 6	X						X				X					X			
NEW 7	X										X					X		X	
NEW 8	X				X	X	X	X			X					X			
NEW 9	X		X	X				X			X					X			
NEW 10				X	X	X		X	X							X			
NEW 11	X		X				X	X			X					X			
GNED 49																			
NEW 12	X						X									X			
APST 154										X	X		X		X				
NEW 13	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X		X

	VLO 1	VLO 2	VLO 3	VLO 4	VLO 5	VLO 6	VLO 7	VLO 8	VLO 9	VLO 10	VLO 11	VLO 12	VLO 13	VLO 14	VLO 15	VLO 16	VLO 17	VLO 18	VLO 19
COMM 201										X		X	X	X					
NEW 14	X						X				X								
NEW 15	X			X			X	X			X					X			
GNED 2																			
NEW 16											X					X	X		
NEW 17	X						X									X			
NEW 18										X	X	X	X		X				
NEW 19							X	X			X					X		X	X
NEW 20	X	X					X	X			X					X	X		
NEW 21	X						X									X			
NEW 22	X						X				X					X			
NEW 23	X			X			X	X			X					X			
GNED 3																			

EES

1. Communication: a) Reading, b) Writing, c) Speaking, d) Listening, e) Presenting, f) Visual literacy. 1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.
2. Communication: a) Reading, b) Writing, c) Speaking, d) Listening, e) Presenting, f) Visual literacy. 2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.
3. Numeracy: a) Understanding and applying mathematical concepts and reasoning, b) Analyzing and using numerical data, s) Conceptualizing 3. Execute mathematical operations accurately.
4. Critical thinking & problem solving: a) Analysis, b) Synthesising, c) Evaluating, d) Decision making, e) Creative and innovative thinking 4. Apply a systematic approach to solve problems.
5. Critical thinking & problem solving: a) Analysis, b) Synthesising, c) Evaluating, d) Decision making, e) Creative and innovative thinking 5. Use a variety of thinking skills to anticipate and solve problems.
6. Information management: a) Gathering and managing information, b) Selecting and using appropriate tools and technology for a task or a project, c) Computer literacy, d) Internet skills 6. Locate, select, organize, and document information using appropriate technology and information systems.
7. Information management: a) Gathering and managing information, b) Selecting and using appropriate tools and technology for a task or a project, c) Computer literacy, d) Internet skills 7. Analyze, evaluate, and apply relevant information from a variety of sources.
8. Interpersonal: a) Team work, b) Relationship management, c) Conflict resolution, d) Leadership, e) Networking. 8. Show respect for the diverse opinions, values, belief systems, and contributions of others.
9. Interpersonal: a) Team work, b) Relationship management, c) Conflict resolution, d) Leadership, e) Networking. 9. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
10. Personal: a) Managing self, b) Managing change and being flexible and adaptable, c) Engaging in reflective practice, d) Demonstrating personal responsibility. 10. Manage the use of time and other resources to complete projects.
11. Personal: a) Managing self, b) Managing change and being flexible and adaptable, c) Engaging in reflective practice, d) Demonstrating personal responsibility. 11. Take responsibility for one's own actions, decisions, and consequences
12. Communication (FR).
13. Interpersonal (FR).

EES Mapping

	EES 1	EES 2	EES 3	EES 4	EES 5	EES 6	EES 7	EES 8	EES 9	EES 10	EES 11	EES 12	EES 13
NEW 1	X		X	X	X								
NEW 2				X	X		X						
NEW 3				X			X		X				
NEW 4	X						X						
NEW 5	X	X					X				X		
NEW 6				X	X		X						
NEW 7				X	X		X						
NEW 8				X	X		X						
NEW 9				X	X		X						
NEW 10				X					X				
NEW 11				X	X		X						
GNED 49													
NEW 12			X	X	X		X						
APST 154	X	X				X	X	X	X	X	X		
NEW 13	X	X	X	X	X	X	X	X	X	X	X		
COMM 201	X					X	X	X	X	X	X		
NEW 14				X	X	X	X						
NEW 15				X	X		X						

	EES 1	EES 2	EES 3	EES 4	EES 5	EES 6	EES 7	EES 8	EES 9	EES 10	EES 11	EES 12	EES 13
GNED 2													
NEW 16				X			X						
NEW 17				X	X		X						
NEW 18	X	X				X	X	X	X	X	X		
NEW 19				X			X						
NEW 20				X	X		X						
NEW 21			X	X	X		X						
NEW 22				X	X	X	X						
NEW 23				X	X		X						
GNED 3													

Certification/Accreditation

Certification type

Voluntary recognition is NOT being sought.

(There may be titling implications for programs that are not seeking recognition in an area where existing programs have secured recognition)

Details

The college will pursue an attestation letter related to in-school apprenticeship training from the appropriate ministry, once the program is approved and running.

11.2. Appendix II: MCU Program Delivery Information (PDI)

	Semester						
Funded Instructional Setting	1	2	3	4	5	6	Total
Classroom instruction	165	150		135	135		585
Laboratory/workshop/fieldwork	150	150		150	165		615
Independent (self-paced)		15					15
One-on-one instruction							0
Clinical placement							0
Field placement/work placement							0
Small group tutorial							0
Total	315	315	0	285	300	0	1215
	Semester						
Non Funded Instructional Settings	1	2	3	4	5	6	Total
Co-op work placement - Mandatory							0
Co-op work placement - Optional			420				420
Degree work placement – Mandatory (shorter than Co-op)							0
Total	0	0	420	0	0	0	420
Total	1	2	3	4	5	6	Total
Grand Total	315	315	420	285	300	0	1635

11.3. Appendix III: Labour Market Information Details

OVERVIEW OF THE OCCUPATIONS

Small Engine Technician: NOC 7335

Turf Equipment Technician: NOC 7335

Marine Technician: NOC 7384

RV Technician: NOC 7384

Aircraft Interior Technician: NOC 6345

Upholsterer: NOC 6345

NOC 7335: SMALL ENGINE TECHNICIANS

7335: OUTLOOK FOR MUSKOKA-KAWARTHAS REGION

Job Bank (January 2021). <https://www.jobbank.gc.ca/marketreport/outlook-occupation/21575/22412>

The employment outlook will be **GOOD** for Other small engine and small equipment repairers (NOC 7335) in the Muskoka - Kawarthas region for the 2019-2021 period.

The following factors contributed to this outlook:

- Employment growth will lead to a moderate number of new positions.
- Several positions will become available due to retirements.
- There are a small number of unemployed workers with recent experience in this occupation.

Here are some key facts about Other small engine and small equipment repairers in the Muskoka - Kawarthas region:

- Approximately 220 people work in this occupation.
- Other small engine and small equipment repairers mainly work in the following sectors:
 - Other services (except public administration) (NAICS 81): 63%
 - Retail Trade (NAICS 44-45): 27%
 - Information, cultural, arts, entertainment and recreation services (NAICS 51, 71): 6%

7335: PROVINCIAL OUTLOOK FOR ONTARIO

Job Bank. (January 2021). <https://www.jobbank.gc.ca/marketreport/outlook-occupation/21575/ON>

The employment outlook will be **FAIR** for Other small engine and small equipment repairers (NOC 7335) in Ontario for the 2019-2021 period.

The following factors contributed to this outlook:

- Employment growth will lead to a moderate number of new positions.
- A moderate number of positions will become available due to retirements.
- There are a moderate number of unemployed workers with recent experience in this occupation.

Here are some key facts about Other small engine and small equipment repairers in the Ontario region:

- Approximately 1,500 people work in this occupation.
- Other small engine and small equipment repairers mainly work in the following sectors:
 - Repair and maintenance (NAICS 811): 49%
 - Other retail stores (NAICS 44-45, except 445): 14%
 - Arts, entertainment and recreation (NAICS 71): 7%
 - Wholesale trade (NAICS 41): 6%
 - Real Estate and rental and leasing (NAICS 53): 6%
- The distribution of full-time and part-time workers in this occupation is:
 - Full-time workers: 83% compared to 79% for all occupations
 - Part-time workers: 17% compared to 21% for all occupations
- 67% of other small engine and small equipment repairers work all year, while 33% work only part of the year, compared to 63% and 37% respectively among all occupations. Those who worked only part of the year did so for an average of 32 weeks compared to 31 weeks for all occupations.
- 37% of other small engine and small equipment repairers are self-employed compared to an average of 12% for all occupations.

Outlook Breakdown by Region

Location	Job prospects
Hamilton–Niagara Peninsula Region	★★★ Good
Kingston–Pembroke Region	★★★ Fair
Kitchener–Waterloo–Barrie Region	★★★ Fair
London Region	★★★ Undetermined
Muskoka–Kawartha Region	★★★ Good
Northeast Region	★★★ Undetermined
Northwest Region	★★★ Undetermined
Ottawa Region	★★★ Good
Stratford–Bruce Peninsula Region	★★★ Undetermined
Toronto Region	★★★ Fair
Windsor-Sarnia Region	★★★ Undetermined

7335: NATIONAL 10-YEAR PROJECTION (2019-2028)

Canadian Occupational Projection System (COPS). (Revised 2019).

<http://occupations.esdc.gc.ca/sppc-cops/occupationsummarydetail.jsp?&tid=237>

BALANCE: Labour demand and labour supply are expected to be broadly in line for this occupation group over the 2019-2028 period at the national level.

Occupations in this Group

- Oil and solid fuel heating mechanics (7331)
- Appliance servicers and repairers (7332)
- Electrical mechanics (7333)
- Motorcycle, all-terrain vehicle and other related mechanics (7334)
- Other small engine and small equipment repairers (7335)

Skill Type: Trades, transport and equipment operators and related occupations

Skill Level: Occupations usually require college or vocational education or apprenticeship training.

- Employment in 2018: 32,600
- Median Age of workers in 2018: 42 years old
- Estimated Median Age of Retirement in 2018: 66 years old

The analysis of key labour market indicators such as job vacancies and employment growth as well as the unemployment rate suggests that the number of job seekers was sufficient to fill the job openings in this occupational group over the 2016-2018 period.

Over the period **2019-2028**, the number of job openings (arising from expansion demand and replacement demand) are expected to total **8,200**, while the number of job seekers (arising from school leavers, immigration and mobility) is expected to total **8,800**.

7335: WAGE ESTIMATES

Job Bank. (January, 2021).

<https://www.jobbank.gc.ca/marketreport/wages-occupation/21575/ON>

Community/Area	Wages (\$/hour)		
	Low	Median	High
Ontario	14.25	21.00	26.50
Hamilton–Niagara Peninsula Region	14.25	21.00	26.50
Kingston–Pembroke Region	14.25	21.00	26.50
Kitchener–Waterloo–Barrie Region	14.25	21.00	26.50
London Region	N/A	N/A	N/A
Muskoka–Kawartha Region	N/A	N/A	N/A
Northeast Region	N/A	N/A	N/A
Northwest Region	N/A	N/A	N/A
Ottawa Region	14.25	21.00	26.50
Stratford–Bruce Peninsula Region	N/A	N/A	N/A
Toronto Region	N/A	N/A	N/A
Windsor–Sarnia Region	N/A	N/A	N/A
Canada	14.00	21.00	28.00

NOC 7384: OTHER TRADES AND RELATED OCCUPATIONS, N.E.C.

7384: REGIONAL & PROVINCIAL OUTLOOK

Job Bank. (January 2021). <https://www.jobbank.gc.ca/marketreport/outlook-occupation/15006/ON>

Undetermined: An employment outlook has not been assigned to this occupation in **Muskoka-Kawartha** region due to low levels of employment.

Undetermined: An employment outlook has not been assigned to this occupation in **Ontario**, or any region in Ontario, due to low levels of employment.

7384: NATIONAL 10-YEAR PROJECTION (2019-2028)

Canadian Occupational Projection System (COPS). (Revised 2019).

<http://occupations.esdc.gc.ca/sppc-cops/occupationssummarydetail.jsp?&tid=240>

BALANCE: Labour demand and labour supply are expected to be broadly in line for this occupation group over the 2019-2028 period at the national level.

Occupations in this Group

- Printing press operators (7381)
- Other trades and related occupations, n.e.c. (7384)

Skill Type: Trades, transport and equipment operators and related occupations

Skill Level: Occupations usually require college or vocational education or apprenticeship training.

- Employment in 2018: 23,600
- Median Age of workers in 2018: 44.9 years old
- Estimated Median Age of Retirement in 2018: 66 years old

The analysis of key labour market indicators such as job vacancies and employment growth as well as the unemployment rate suggests that the number of job seekers was sufficient to fill the job openings in this occupational group over the 2016-2018 period.

Over the period 2019-2028, the number of job openings (arising from expansion demand and replacement demand) are expected to total **4,900**, while the number of job seekers (arising from school leavers, immigration and mobility) is expected to total **5,800**.

7384: WAGE ESTIMATES

Job Bank. (January 2021). <https://www.jobbank.gc.ca/marketreport/wages-occupation/15006/ON>

Community/Area	Wages (\$/hour)		
	Low	Median	High
Ontario	16.00	24.00	33.65
Hamilton–Niagara Peninsula Region	16.00	24.00	33.65
Kingston–Pembroke Region	N/A	N/A	N/A
Kitchener–Waterloo–Barrie Region	16.00	24.00	33.65
London Region	16.00	24.00	33.65
Muskoka–Kawartha Region	N/A	N/A	N/A
Northeast Region	N/A	N/A	N/A
Northwest Region	N/A	N/A	N/A
Ottawa Region	16.00	24.00	33.65
Stratford–Bruce Peninsula Region	N/A	N/A	N/A
Toronto Region	16.00	25.00	35.00
Windsor–Sarnia Region	16.00	24.00	33.65
Canada	16.25	23.08	34.50

NOC 6345: UPHOLSTERERS/ AIRCRAFT INTERIOR TECHNICIANS

6345: REGIONAL & PROVINCIAL OUTLOOK

Job Bank Canada. (January, 2021). <https://www.jobbank.gc.ca/marketreport/outlook-occupation/14894/ON>

Undetermined: An employment outlook has not been assigned to this occupation in **Muskoka-Kawartha** region due to low levels of employment.

The employment outlook will be **FAIR** for Upholsterers (NOC 6345) in Ontario for the 2019-2021 period.

The following factors contributed to this outlook:

- Employment decline will lead to the loss of some positions.
- A moderate number of positions will become available due to retirements.
- There are a small number of unemployed workers with recent experience in this occupation.

Upholsterers are employed mainly in the repair and maintenance services and the furniture and related product manufacturing industries. Over the past few years, consumers have been more inclined to purchase new furniture rather than have old furniture repaired and reupholstered. This shift has been most likely due to the increased availability of more affordable imported furniture and the high relative costs of upholstering services. The availability of cheaper products has had a negative impact on the Canadian furniture manufacturing industry.

Other factors impacting this occupation are the availability of used furniture through online resale sites and the rise in condo living requiring furniture that fit smaller spaces. All of these factors may likely limit business opportunities available for upholsterers.

With more than 40% of the workforce over the age of 55, opportunities in this occupation are expected to come from vacated positions and business due to retirements. Nearly 40% of the professionals in this occupation are self-employed.

Here are some key facts about Upholsterers in the Ontario region:

- Approximately 2,350 people work in this occupation.
- Upholsterers mainly work in the following sectors:
 - Repair and maintenance (NAICS 811): 46%
 - Furniture and related product manufacturing (NAICS 337): 31%
 - Other retail stores (NAICS 44-45, except 445): 8%
- The distribution of full-time and part-time workers in this occupation is:
 - Full-time workers: 88% compared to 79% for all occupations
 - Part-time workers: 12% compared to 21% for all occupations
- 69% of upholsterers work all year, while 31% work only part of the year, compared to 63% and 37% respectively among all occupations. Those who worked only part of the year did so for an average of 33 weeks compared to 31 weeks for all occupations.
- 37% of upholsterers are self-employed compared to an average of 12% for all occupations.

6345: NATIONAL 10-YEAR PROJECTION (2019-2028)

Canadian Occupational Projection System (COPS). (Revised 2019).

<http://occupations.esdc.gc.ca/sppc-cops/occupationsummarydetail.jsp?&tid=179>

BALANCE: Labour demand and labour supply are expected to be broadly in line for this occupation group over the 2019-2028 period at the national level.

Occupations in this Group

- Tailors, dressmakers, furriers and milliners (6342)
- Shoe repairers and shoemakers (6343)
- Jewellers, jewellery and watch repairers and related occupations (6344)
- Upholsterers (6345)
- Funeral directors and embalmers (6346)

Skill Type: Sales and service occupations

Skill Level: Occupations usually require college or vocational education or apprenticeship training.

- Employment in 2018: 30,500
- Median Age of workers in 2018: 52.9 years old
- Estimated Median Age of Retirement in 2018: 70 years old

Over the period 2019-2028, the number of job openings (arising from expansion demand and replacement demand) are expected to total **5,600**, while the number of job seekers (arising from school leavers, immigration and mobility) is expected to total **6,000**.

6345: WAGE ESTIMATES

Job Bank. (January, 2021). <https://www.jobbank.gc.ca/marketreport/wages-occupation/14894/ON>

Community/Area	Wages (\$/hour)		
	Low	Median	High
Ontario	15.00	20.00	29.00
Hamilton–Niagara Peninsula Region	N/A	N/A	N/A
Kingston–Pembroke Region	N/A	N/A	N/A
Kitchener–Waterloo–Barrie Region	15.00	20.00	29.00
London Region	N/A	N/A	N/A
Muskoka–Kawartha Region	N/A	N/A	N/A
Northeast Region	N/A	N/A	N/A
Northwest Region	N/A	N/A	N/A
Ottawa Region	N/A	N/A	N/A
Stratford–Bruce Peninsula Region	N/A	N/A	N/A
Toronto Region	15.00	20.00	30.00
Windsor–Sarnia Region	N/A	N/A	N/A
Canada	14.00	17.86	26.00

LABOUR MARKET FOR ALL 3 NOC CODES

INDUSTRIES EMPLOYING THESE 3 OCCUPATIONS

EMSI Analyst (2020.3). Census Divisions included: Simcoe, Durham, Peterborough, Kawartha Lakes, Northumberland and Haliburton

Most Jobs are Found in the Other motor vehicle dealers Industry Sector

■■■



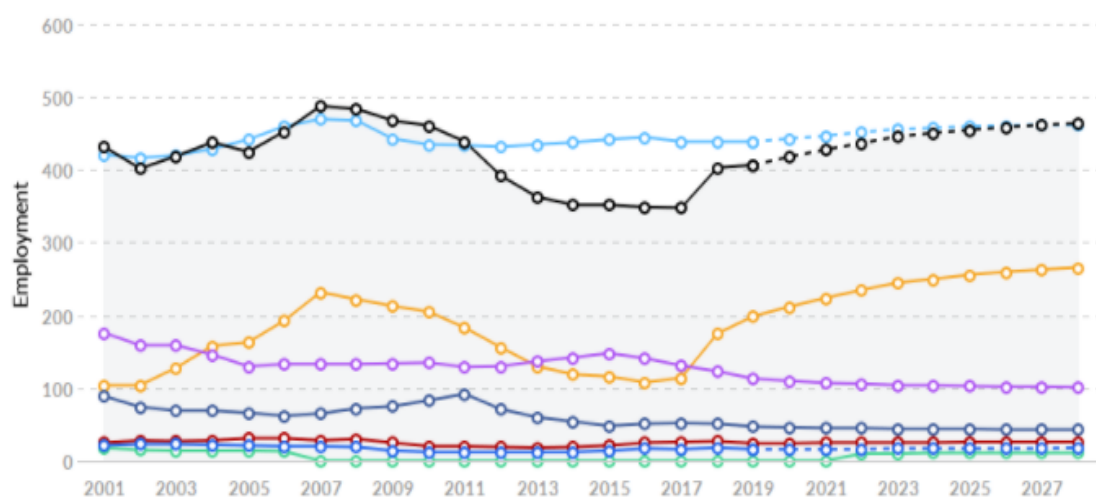
Industry	% of Occupation in Industry (2020)
Other motor vehicle dealers	20.4%
Personal and household goods repair and maintenance	19.9%
Investigation and security services	6.2%
Other amusement and recreation industries	5.9%
Defence services	5.3%
Lawn and garden equipment and supplies stores	3.8%
Other	38.4%

REGIONAL BREAKDOWN BY CENSUS DIVISION (3 OCCUPATIONS)

EMSI Analyst (2020.3). Census Divisions included: Simcoe, Durham, Peterborough, Kawartha Lakes, Northumberland and Haliburton

Regional Employment Is About Equal to the National Average

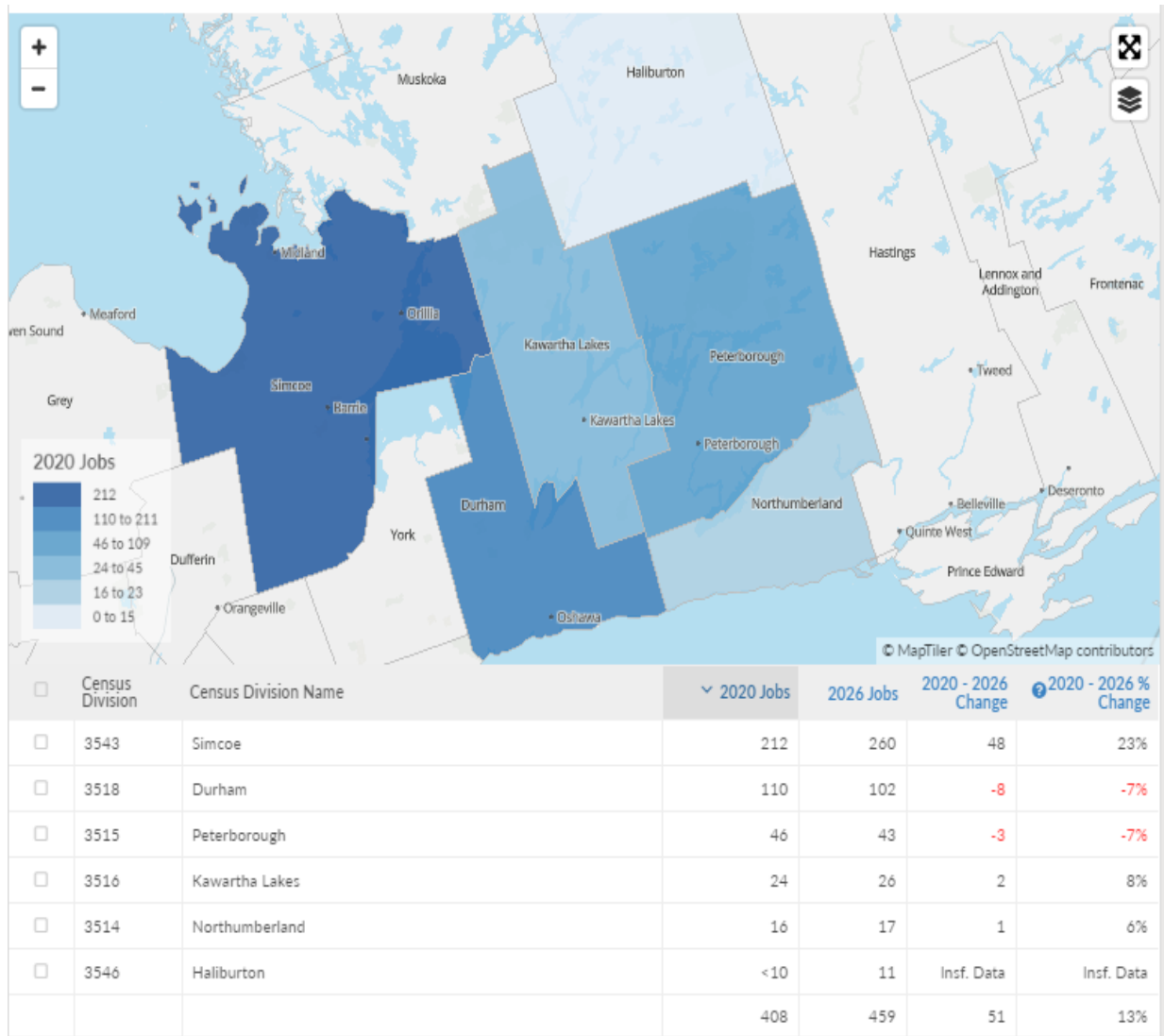
An average area of this size typically has 443* jobs, while there are 418 here.



Region	2020 Jobs	2026 Jobs	Change	% Change	
6 Ontario Census Divisions	418	459	42	10.0%	
National Average	443	461	18	4.1%	
Northumberland (in Ontario)	16	17	2	11.5%	✗
Peterborough (in Ontario)	46	43	-3	-6.1%	✗
Kawartha Lakes (in Ontario)	24	26	1	5.8%	✗
Durham (in Ontario)	110	102	-8	-6.8%	✗
Simcoe (in Ontario)	212	260	47	22.3%	✗
Haliburton (in Ontario)	<10	11	Insf. Data	Insf. Data	✗

REGIONAL BREAKDOWN BY CENSUS DIVISION

EMSI Analyst (2020.3). Census Divisions included: Simcoe, Durham, Peterborough, Kawartha Lakes, Northumberland and Haliburton



REGIONAL COMPARISON BY OCCUPATION

EMSI Analyst (2020.3). Census Divisions included: Simcoe, Durham, Peterborough, Kawartha Lakes, Northumberland and Haliburton

2020 Jobs

Occupation	Description	Northumberland (in Ontario)	Peterborough (in Ontario)	Kawartha Lakes (in Ontario)	Durham (in Ontario)	Simcoe (in Ontario)	Haliburton (in Ontario)
6345	Upholsterers	<10	17	<10	49	18	<10
7335	Other small engine and small equipment repairers	<10	12	<10	30	98	<10
7384	Other trades and related occupations, n.e.c.	<10	17	10	31	97	<10
Total		16	46	24	110	212	<10

2026 Jobs

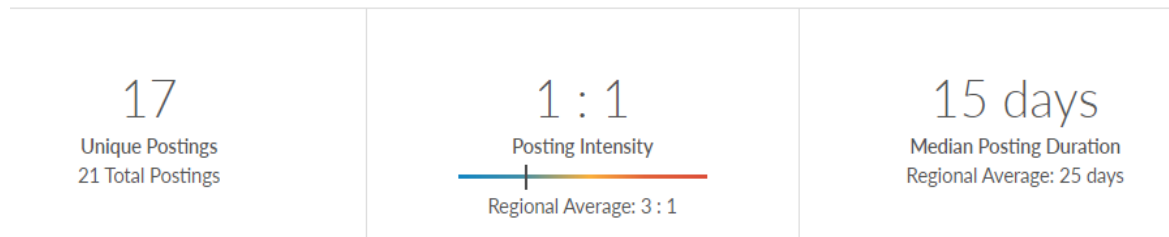
Occupation	Description	Northumberland (in Ontario)	Peterborough (in Ontario)	Kawartha Lakes (in Ontario)	Durham (in Ontario)	Simcoe (in Ontario)	Haliburton (in Ontario)
7335	Other small engine and small equipment repairers	<10	14	<10	28	121	<10
6345	Upholsterers	<10	14	<10	51	16	<10
7384	Other trades and related occupations, n.e.c.	<10	16	10	24	123	<10
Total		17	43	26	102	260	11

11.4. Appendix IV: Job Posting Analytics and Employment Postings

JOB POSTING ANALYTICS FOR 3 NOCS

EMSI Analyst (2020.3). Census Divisions included: Simcoe, Durham, Peterborough, Kawartha Lakes, Northumberland and Haliburton

Job Postings Overview: March 2020 to February 2021



There were 21 total job postings for your selection from March 2020 to February 2021, of which 17 were unique. These numbers give us a Posting Intensity of 1-to-1, meaning that for every 1 posting there is 1 unique job posting.

This is lower than the Posting Intensity for all other occupations and companies in the region (3-to-1), indicating that they may not be trying as hard to hire for this position.

Top Cities Posting

Top Cities Posting

City	Total/Unique (Mar 2020 - Feb 2021)	Posting Intensity	Median Posting Duration
Barrie	4 / 4	1 : 1	15 days
Orillia	4 / 3	1 : 1	29 days
Collingwood	2 / 2	1 : 1	1 day
Toronto	4 / 2	2 : 1	7 days
Bradford West Gwillimbury	1 / 1	1 : 1	5 days
Cumberland Beach	2 / 1	2 : 1	48 days
Innisfil	1 / 1	1 : 1	3 days
Midland	1 / 1	1 : 1	24 days
Oshawa	1 / 1	1 : 1	7 days
Peterborough	1 / 1	1 : 1	2 days

Top Companies Posting

Top Companies Posting

■■■

Company	Total/Unique (Mar 2020 - Feb 2021)	Posting Intensity	Median Posting Duration
Guild Automotive Restorations Inc	3 / 3	1 : 1 	53 days
Detect Fire Suppression Inc	4 / 3	1 : 1 	29 days
Huron Alarm & Fire Security Inc	1 / 1	1 : 1 	1 day
Zenair Ltd	1 / 1	1 : 1 	24 days
Cummins Inc.	2 / 1	2 : 1 	48 days
Worshippers Of The Word Of Life Of Eastern Passage	1 / 1	1 : 1 	15 days
Toronto Transit Commission	2 / 1	2 : 1 	7 days
Grand Upholstery & Design	1 / 1	1 : 1 	7 days
Bad Boy Club	2 / 1	2 : 1 	20 days
Temp Connections	1 / 1	1 : 1 	3 days

EMPLOYMENT POSTING SOURCES

EMSI Analyst (2020.3). Census Divisions included: Simcoe, Durham, Peterborough, Kawartha Lakes, Northumberland and Haliburton

Postings on Websites (3 NOCs: Mar 2020 – Feb 2021)

Top Posting Sources

■■■

Website	Postings on Website (Mar 2020 - Feb 2021)
Wowjobs.ca	6
Kijiji.ca	3
Workopolis.com	3
Ca.jobomas.com	1
Ca.fc.ca	1
Glassdoor.ca	1
Oafc.on.ca	1
Orillia.ca	1
Ttc.ca	1
Workhoppers.com	1

Current Related Postings (March 23, 2021):

- Wowjobs: Aircraft Interior Technician
 - Peterborough area (50 km): 4 posting
 - Ontario: 5 postings
- Wowjobs: Marine Engine Technician
 - Peterborough area (50 km): 1 postings
 - Ontario: 29 postings
- Wowjobs: RV Technician
 - Peterborough area (50 km): 3 postings
 - Ontario: 56 postings
- Wowjobs: Small Engine Technician
 - Peterborough area (50 km): 2 posting
 - Ontario: 84 postings

SAMPLE POSTING 1

Sewing / Upholstery Technician

Flying Colours Corp - FCCN –
Peterborough, ON

Flying Colours Corp is a global leader in all aspects of aircraft completions and maintenance. With facilities in Canada, USA, and Singapore our continued growth and success is driven by our talented workforce that embody our core values: integrity, innovation and flexibility.

Due to continued growth in our businesses, we have a requirement for an Upholstery Technician to join our Team at our Peterborough, Ontario location.

General Accountability

Sewing and Upholstery Technicians are expected to work safely and efficiently at all times. Candidates should have general knowledge of aircraft cabinets and components, including repairing, modifying, refurbishing, and fabricating aircraft seating and interior components including stripping and re-covering existing interior coverings.

Specific Accountabilities

Sewing and Upholstery Technicians fabricate, repair, modify, and refurbish aircraft seats, divans, sidewalls and associated components, including the re-upholstery of panels, liners and sidewalls, to high degrees of finish quality and structural safety.

Incumbents must demonstrate the ability to work with high-grade leather materials from blueprints, drawings and other illustrations or written work instructions.

Technicians must plan, prepare and cut materials to standardized patterns for stitching and fitting to customer and engineered requirements.

Sewing Technicians must demonstrate competency in the following accountabilities:

The skill to operate industrial, single, multi-needle sewing machines, sergers, leather skiving machines, piping or binding machines.

Sewers must be skilled at operating machines to join sections of seating material typically, leather as well as other components into finished products used within aircraft interiors. Knowledge of different stitching styles such as top stitching, French seaming, back stitch and blind stitch.

Sewers must be able demonstrate the ability to upholster finished products such seat backs bottoms and divan cushions

The ability to work from a rendering to create patterns and provide written instructions for team members to follow

Upholstery Technicians must demonstrate competency in the following accountabilities:

Possesses all the various skills needed to build and break down a cabin seat.

This job requires a high attention to detail not only for the purposes of appearance and ergonomics, but also for safety and structural integrity purposes.

Certain Technicians in this classification may also measure, cut and prepare foam materials used in the upholstery process.

Familiar with breakdown, building up and troubleshooting of aircraft seats and interior components.

Ability to strip and recover seats and their components.

Ability to match, adhere and fasten together materials or components using adhesives.

Ability to fit, build-up, assemble and finish seating and other upholstered components from materials fabricated and manufactured onsite.

Possesses the ability to cover large monuments such as headliners and sidewalls

Performs work in a productive, diligent, careful and safe manner.

Complete any special projects or other tasks as required or assigned. May be assigned to other areas of operations, based on business or customer requirements.

Works in compliance with all Administrative, Health & Safety policies and procedures as per legislative requirements and as outlined in Company policies.

Experience and Education Requirements

Secondary school diploma required and/or completion of College/CEGEP/technical training in a related field preferred.

Applicants must have extensive, practical industrial sewing and upholstery experience, ideally working with seating and leather materials.

Seamstress / sewers must have the additional qualifications and skill to masterfully operate the following:

Multi-needle machine

Leather stitching machine

Piping or binding machine.

Experience in an aviation-related field is preferable.

Skills/Abilities

Candidates must be able to understand and work from blueprints as well as other written instructions and design specifications.

Strong mathematical knowledge is required, as is the ability to make accurate measurements and finish materials to a high level of quality and precision.

Applicants with industrial sewing and upholstery experience are preferred.

Excellent planning, organization and coordination skills.

Excellent judgment, strong attention to detail.
Ability to understand and follow direction with minimal supervision.
Proven ability to communicate effectively orally and written.
Ability to trouble-shoot and problem solve.
Positive attitude and willingness to learn.
Self-motivated and able to maintain a rapid pace.
Ability to work independently and in a team environment.

Working Conditions

Regular periods during which physical effort is required, e.g., walking standing, stooping, climbing, lifting material or equipment, some of which may be heavy or awkward.
Exposure to factors such as temperature variations/extremes, fumes, moving machinery, humidity, and materials which can cause periods of discomfort.
Frequent need to give concentrated attention, with one or two senses at a time, where stimuli are changing.
Occasional direct and indirect pressure from deadlines, production quotas, accuracy or similar demands.

Working Hours

This is a full-time FT position where hours will change due to business operational needs and flexibility is required. At present, the standard hours of work are 8am-5pm, Monday to Friday.

Compensation

We offer competitive compensation to qualified and highly motivated candidates. Please note that applicants for these positions must have current status to work in Canada in order to be considered for this opportunity.

Flying Colours Corp. is proud to participate in the Legislated Employment Equity Program LEEP. We welcome applications from all qualified candidates including candidates representing the four designated groups: Women, member of Visible Minorities, Aboriginal Peoples and Persons with Disabilities.

<https://www.wowjobs.ca/BrowseResults.aspx?q=aircraft+interior+&l=Peterborough%2C+ON&job=BryjXq4vFSYNqriBZEZU9zrnyCrjYeA5G-F-inVhHKxSpydx2L5GTg>

SAMPLE POSTING 2

Marine Technician

Bridgeview Marine Services
Sarnia, ON

Job Types: Full-time, Permanent
Salary: \$50,000.00 to \$60,000.00 /year

THE IDEAL CANDIDATE

- Have their own hand tools (we supply the specialized shop tools)
- Be able to work independently

- Be strong at trouble shooting and maintaining marine system
- Have diesel service experience
- Have some experience in operating a boat
- Have a boaters and drivers license

JOB DESCRIPTION

- Perform maintenance and service on 16ft run about Boats to 90ft Yachts
- Troubleshooting/Diagnostic work on engines and drive trains, electrical systems, fresh water systems.
- Engine, Transmission and prop shaft remove and replace for service
- Repairs to marine water systems, heads and holding tanks, bilge pumps, ect
- Getting boats ready for the water in the spring and winterizing in the fall and shrink wrapping.
- Review work orders and discuss work with supervisor.

HOURS

- The service department hours are Monday to Friday 8am till 5pm
- There can be some over time work in a emergency situation on a weekend

ABOUT US

- Our shop is in with a 700 slip Marina.
- We have three buildings for heated storage boats
- If your [sic] looking for employment working on the water with boats we have an amazing opportunity to join our team.

Experience: Repair: 5 years (Required)

Education: AEC / DEP or Skilled Trade Certificate (Preferred)

Licence: Marine (Preferred)

Language: English (Required)

<https://www.wowjobs.ca/BrowseResults.aspx?q=marine+engine+technician&l=Ontario&job=p7PNcpp-lu3yEHliC3EE1ChUBNMCD3tUEstaoPNZ9yIKqVjMfGATNA>

SAMPLE POSTING 3

RV Technician

1000 Islands RV Centre
Gananoque, ON

This is a Full Time year round position with company benefits. Pay is based on experience.

1000 Islands RV Centre in the beautiful Gananoque, Ontario is currently looking for an RV Technician to join our team!

We are ideally looking for someone with advanced diagnostic and repair skills for Recreational Vehicle (RV) coach systems, generators and coach body repairs. Someone who is passionate about fixing mechanical, plumbing, HVAC, electrical, and maintenance problems would be ideal. A successful Recreational Vehicle (RV) Technician will have strong attention to detail, be self-motivated and well-versed in all maintenance and repairs. 1000 islands RV will pay to certify individuals not already certified.

Essential Job Functions:

- Provide and document complete diagnostic test and repair or replacement services to customers
- Perform electrical, plumbing, carpentry and appliance maintenance
- Track all parts and materials used in repairs or replacements
- Keep supervisor apprised of work progress
- Ensure that the final work product meets quality standards and is inspected by supervisor or designee
- Maintain a safe and clean work area for customers and coworkers
- Perform other miscellaneous duties as assigned

Essential Job Skills:

- Certification from college or technical school in trade field (HVAC, Electrical, Plumbing, Maintenance, etc.) is certainly helpful but, we also consider applicable work experience
- Minimum 1 year service technician experience or related fields preferred
- RVI certification helpful but not required
- Prolonged periods of standing, stooping, crawling, and bending
- May lift up to 25 lbs and/or move up to 50 lbs. with assistive devices
- Must furnish own hand/shop tools
- Valid driver's license

Experience:

- General Maintenance: 1 year (Preferred)
- Plumbing: 1 year (Preferred)
- Electrical: 1 year (Preferred)

Licence: G1 Driver's (Preferred)

<https://www.wowjobs.ca/BrowseResults.aspx?q=RV+technician&l=ontario&job=HnB0ifDguvR8gPQAFigt9h53tkS4nneX7y49j3zKTj4Cz2urRK6QEQ>

SAMPLE POSTING 4

Small Engine Technician / Mechanic

Achieve Business Solutions
Burlington, ON

Job Types: Full-time, Permanent
Salary: \$50,000.00 /year

Small Engine Mechanic Responsibilities and Duties

- Repairing small engine equipment including but not limited to trimmers, lawn mowers, chainsaws, blowers etc.
- Small engine mechanic will open, assemble and perform pre-delivery inspections on new mowers, line trimmer, etc.
- Small engine mechanic will assemble and test snowploughs and salters in the winter
- Small engine mechanic is self-motivated and organised
- Small engine mechanic is reliable
- During busy spring and fall periods small engine mechanic is an expectation to work outside the normal business hours

Skills, Knowledge Qualifications

- Small engine mechanic must have minimum 2 years' experience repairing and servicing small engine equipment (i.e. snow equipment, mowers/small tractors, line trimmers) in a service dept
- Small engine mechanic has proficient knowledge of mechanical, electrical and hydraulic systems
- Small engine mechanic has ability to perform complex repairs and maintenance following Technical Manual procedures on the machines
- Small engine mechanic has a valid driver's license
- Small engine mechanic is able to perform heavy lifting (Capable of lifting more than 50lbs)
- Small engine mechanic has knowledge of Windows programs and computerised parts look up

Soft skills Qualifications

- Superior verbal communication skills
- Should have their own basic tools
- Good problem solving and troubleshooting skills
- Enthusiastic and willing to continue to learn and grow as a Mechanic
- Ability to work independently as well as with a team.

Experience: Repairing small engine equipment (mowers & snow Blowers,: 2 years (Required)

https://www.wowjobs.ca/BrowseResults.aspx?q=small+engine+technician&l=ontario&job=p1088JTKHgXOqGXmLNtlxy4bR_L_SXwGJz96HJiy9M_5R6UrWkdz4g

11.5. Appendix V: Competitor Information Details

Highlighted programs are closest in scope.

College	Program Title	Length, Type (diploma, cert., post)	Delivery method(s)	Other (Unique to the program)
Algonquin	Motive Power Technician	Ontario College Diploma Compressed to 42 weeks		BYOD
Algonquin	Motive Power Technician – Diesel Equipment and Truck	Ontario College Diploma Compressed to 42 weeks		BYOD
Cambrian	Motive Power (Automotive) Technician - Service and Management	Ontario College Diploma 4 semesters	Optional paid co-op	Your diploma equates to the three levels of theory required towards your apprenticeship Certificate of Qualification.
Cambrian	Motive Power Technician – Truck and Coach	Ontario College Diploma 4 semesters	Optional paid co-op	Your diploma equates to the three levels of theory required towards your apprenticeship Certificate of Qualification.
Canadore	Motive Power Technician	Ontario College Diploma Compressed to 40weeks	Includes a 2 week placement	Successful completion is equivalent to Levels 1 and 2 (automobile) and Level 1 (truck and coach) Apprenticeship in-class portion
Centennial	Automotive – Motive Power Technician	Ontario College Diploma 4 semesters	Co-op option	In addition to your diploma, you'll earn the Ozone Depletion Prevention (ODP) certification.
Centennial	Motive Power Fundamentals	Ontario College Certificate 2 semesters		
Centennial	Trades Foundations – Motive Power: Alternate Offer Only	Ontario College Certificate		(no direct applications). Program provides an opportunity to prepare to meet the English communications assessment entry point for a Motive Power program in the School of Transportation.
Centennial	Motive Power – Heavy Duty	Ontario College Diploma	Co-op option	

	Equipment Technician	4 semesters		
Centennial	Motorcycle and Powersports Products Repair Techniques	Ontario College Certificate 2 semesters (28 weeks)		
Centennial	Truck and Coach Motive Power Technician	Ontario College Diploma 4 semesters		Because the program is based on the Truck and Coach Technician apprenticeship curriculum standards, you'll meet the requirements for Level 1 and 2 in-school apprenticeship training.
Centennial	Truck and Coach Technician – Mack/Volvo	Ontario College Certificate Modified Apprenticeship programs 32 week in-class		Upon successful program completion, with a 75 per cent grade average, you'll complete a job interview at a hiring MACK/VOLVO dealership or fleet operation, where you'll obtain your on-the-job apprenticeship training.
Centennial	Truck and Coach Technician A.T.S.	Ontario College Certificate Modified Apprenticeship programs 32 week in-class	4 week placement	
Centennial	Auto Body Repair Techniques	Ontario College Certificate 2 semesters		
Centennial	Auto Body Repair Technician	Ontario College Diploma 4 semesters		
Centennial	Automotive Parts & Service Operations	Ontario College Diploma 4 semesters	Optional co-op work term	
Centennial	Automotive Service Technician Co-op Partnered with TADA and FCA	Ontario College Diploma 4 semesters		Upon graduation, you will have completed level 1 and 2 of the Ontario AST apprenticeship in-school curriculum
Centennial	Specialty Automotive	Ontario College Certificate		Canadian Tire Ford Asset

	Service Technician programs	Modified Apprenticeship programs 32 week in-class		General Motors of Canada Asep Honda Ahap Toyota
Conestoga	Motive Power Fundamentals – Automotive Repair	Ontario College Certificate		
Conestoga	Motive Power Technician – Automotive Service	Ontario College Diploma		
Conestoga	Motive Power Technician – Truck and Coach	Ontario College Diploma		
Conestoga	Motive Power Techniques – Truck and Coach Repair	Ontario College Certificate		
Conestoga	Motive Power Technician – Heavy Duty Equipment Repair	Ontario College Certificate		
Conestoga	Motive Power Technician – Heavy Duty Equipment	Ontario College Diploma	Optional Co-op	
Conestoga	Motive Power Technician – Motorcycle and Power Sport Vehicles	Ontario College Certificate		
Confederation	Motive Power Techniques - Automotive	Ontario College Certificate	2 week field placement	
Confederation	Motive Power Techniques – Heavy Equipment	Ontario College Certificate	2 week field placement	
Durham	Automotive Technician – Service and Management (Motive Power Technician)	Ontario College Certificate 4 semesters		
Durham	Mechanical Engineering Technician –	Ontario College Diploma Fast-track: 2 semesters		Required: Honours Bachelor of Science degree in either

	Non-Destructive Evaluation			mechanical engineering, electrical engineering, material science or physics including a credit in physics, calculus, statistics and electricity
Fanshawe	Aircraft Structural Repair Technician	Ontario College Certificate		This is a Transport Canada-approved program (TC-2019-09-4268) that will allow eligible graduates to receive 10 months towards a Transport Canada-issued Aircraft Maintenance Engineer (AME) License, Category S.
Fanshawe	Auto Body Repair Techniques	Ontario College Certificate 30 weeks		Arrangements will be made for graduates of this program to write the level one apprenticeship exemption exam, rewarding them one year's credit toward their three-year apprenticeship schooling.
Fanshawe	Motive Power Technician (Automotive)	Ontario College Diploma		
Fanshawe	Motive Power Technician (Diesel)	Ontario College Diploma		
Georgian	Mechanical Techniques – Marine Engine Mechanic	Ontario College Certificate	Field Placement	
Georgian	Mechanical Techniques – Small Engine Mechanic	Ontario College Certificate	Field Placement	
Georgian	Marine Engineering Technology	Ontario College Advanced Diploma	2 Co-op work terms	
Georgian	Marine Technology - Navigation	Ontario College Advanced Diploma	3 Co-op work terms	

Loyalist	Motive Power Fundamentals – Parts and Counter Personnel	Ontario College Certificate		
Loyalist	Motive Power Technician – Service and Management	Ontario College Diploma		
Mohawk	Motive Power Fundamentals	Ontario College Certificate 2 semesters		BYOD
Mohawk	Motive Power Technician	Ontario College Diploma		BYOD
Mohawk	Automotive Service Technician – 310S	Mohawk College Certificate		Ministry Funded-Apprenticeship
Niagara	Motive Power Technician - Automotive	Ontario College Diploma	Co-op (sponsored)	Through the Ministry of Training, Colleges, and Universities–Apprentice Branch, students complete their diploma program while working towards their Certificate of Qualifications requirements
Northern	Motive Power Technician – Automotive Service	Ontario College Diploma		BYOD
Northern	Motive Power Technician – Heavy Equipment	Ontario College Diploma		BYOD Level 2,3 Apprenticeship upon completion of placement
Sault	Aircraft Structural Repair Technician	Ontario College Certificate	In partnership with Fanshawe College.	Transport Canada accredited
Sault	Motive Power Fundamentals – Automotive Repair	Ontario College Certificate		
Sault	Motive Power Fundamentals – Heavy Equipment and Truck Repair	Ontario College Certificate		
Sault	Motive Power Technician – Advanced Repair	Ontario College Diploma	Optional unpaid placement	

St. Clair	Motive Power Technician	Ontario College Diploma		
St. Clair	Mechanical Engineering Technology – Automotive Product Design	Ontario College Advanced Diploma		
St. Lawrence	Motive Power Technician	Ontario College Diploma		

11.6. Appendix VI: Letters of Support



Recreation Vehicle Dealers Association of Canada
Association des Commerçants de Véhicules Récréatifs du Canada

April 12, 2021

Pam Stoneham
 Dean, School of Trades & Technology
 Sir Sandford Fleming College
 599 Brealey Drive
 Peterborough, ON
 K9J 7B1

Dear Ms. Stoneham,

Re: Motive Power Technician – (Recreational and Sport Vehicles Ontario College Diploma)

The Recreation Vehicle Dealers Association (RVDA) of Canada is a national federation of provincial and regional RVDA associations and their members who have united to form a professional trade association for all businesses involved in the recreation vehicle industry.

The core objective of the RVDA of Canada is to bring together and represent the retail businesses involved in the recreation vehicle industry across Canada, thus providing the support and strength to protect and promote the interests and welfare of Canadian RV Dealers, and to maximize the potential of the industry for all involved.

We were excited to hear that Sir Sandford Fleming College was developing a new Motive Power Technician – Recreational and Sport Vehicles Ontario College Diploma.

The shortage of skilled workers remains a key concern for the RV industry. There are currently only two colleges in Canada that offer RV service technician apprenticeship or entry level training – in British Columbia and Alberta. The existing programs reach full enrollment each year and often hold waiting lists for additional several dozen prospective students. Our industry is in dire need of additional RV service technician training, especially in Ontario.

The proposal from Sir Sandford Fleming College for a Motive Power Technician program would assist us in recruiting potential technicians to the industry. The program would provide students with a strong foundation which could be immediately applied to RV service technician work required at the dealership level.

RV shipments are projected to reach record high numbers in 2021. The latest projection by the Recreation Vehicle Industry Association shows total 2021 RV shipments ranging between 523,139 and 543,572 units North America-wide. That total would represent a

#145-11331 Coppersmith Way, Richmond, BC, V7A 5J9
 Tel: (604) 718-6325 Fax: (604) 204-0154 www.rvda.ca info@rvda.ca

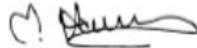
23.9% increase over the 2020 year-end total of 430,412 units. It would also be a 5.7% gain over the current comparable record high of 504,600 units in 2017. The continued growth in the industry will require additional RV service technicians.

Trades & Apprenticeship recently concluded a workshop to prepare the first draft of the updated Red Seal Occupational Standard for the Recreation Vehicle Service Technician trade. Industry stakeholders are currently responding to the initial draft and comments will be sent to each province/territory's apprenticeship authority for review and use. We hope that this updated Standard could be used by numerous colleges and training bodies to establish curriculum for RV service technician training.

The RVDA of Canada is always looking for ways to encourage training and continuing education. Our association offers an RV service technician bursary program to eligible RV technicians who have successfully completed an RV apprenticeship or related educational program. The Sir Sandford Fleming College Motive Power Technician program would be added to our list of recognized training.

We look forward to continued dialogue on the program's development and please do not hesitate to reach out to me if I can be of further assistance.

Regards,



Eleonore Hamm, President



110 Freelon Road
Freelton, Ontario L8B 0Z3
Toll-Free: 1.888.331.8885
Telephone: 905.659.8800
Fax: 905.659.9900
www.ontariorvda.ca

May 11, 2021

Pam Stoneham
Dean, School of Trades & Technology
Sir Sanford Fleming College
599 Brealey Drive
Peterborough, ON
K9J 7B1

Dear Ms. Stoneham,

Re: Motive Power Technician – (Recreational and Sport Vehicles Ontario College Diploma)

The Ontario Recreation Vehicle Dealers Association (ORVDA) represents over 170 RV dealers and associated service providers who bring the RV sector to life for Ontarians. A not-for-profit professional trade association, the ORVDA works on behalf of its members; an industry that employs over 21,860 people and generates over \$1.64B to the provincial economy.

We are pleased to learn that Sir Sandford Fleming College is developing a new Motive Power Technician – Recreational and Sport Vehicles Ontario College Diploma program. There are recognized shortages of qualified Recreation Vehicle technicians in our region and the Ontario Recreation Vehicle Dealers Association welcomes a partnership with Fleming College.

Additionally, we've identified that RV Technology is constantly evolving, and the trade encompasses 14 major trades (such as electrical, propane and plumbing) in an RV Technician's scope of work. In order to ensure the continued sustainability of our industry, it is imperative that RV dealers have the ability to employ trained RV service technicians. Furthermore, there are currently only two programs in Canada that offer RV service technician apprenticeship level training – in British Columbia and Alberta.

We understand that equipment for education curriculum is often costly and inaccessible. It is ORVDA's intention to work with Fleming College and mobilize a team effort with our industry suppliers and partners to supply the essential equipment required to help establish this program.

The Ontario Recreation Vehicle Dealers Association looks forward to collaborating with Sir Sandford Fleming College on the development of this exciting new opportunity for existing and prospective tradespeople in Ontario. Please do not hesitate to reach out if you require further information or assistance.

Regards,

Natalie Conway, Executive Director.



February 26, 2021

Pam Stoneham
Dean, School of Trades & Technology
Sir Sandford Fleming College
599 Brealey Drive
Peterborough, ON
K9J 7B1

Sent via email; Pam.Stoneham@flemingcollege.ca

Re; Mechanical Technician Program

Thanks for the conversation earlier this month and for listening to our 'marine industry perspective' on market needs. The Boating Ontario Association proudly represents over 500 member companies who serve the provinces \$4B recreational boating industry and our 30,000 employees. The core of our membership are the marinas and boat dealerships. While demands on outdoor recreation are currently at high levels the challenges of available skilled trades personnel has negatively restricted our industry for many years.

There is currently only one campus in Ontario offering the Marine Trades Program – Georgian in Midland. For many young people, the costs of attending classes in Midland is insurmountable – unless they live less than 100 KM from campus. Offering an additional solution in the heart of the Kawarthas – a thriving marinas and waterways region, would help meet the demands of our central & eastern Ontario members.

Over the last several years our members have been handcuffed with the limited number of seats that Georgian can offer in the 8 month MTME or 8 week Level 1,2 or 3 programs. This leaves young technicians waiting in the wings in the hope of getting a seat in a future year or simply leaving our industry.

Boating Ontario stands ready to come in and meet with students, to promote our sectors incredible lifestyle opportunities and the rewarding career that recreational boating represents. Our MarineWorx Development Fund serves as an industry funded, education focused support mechanism to advance all aspects of our workforce. Currently close to 65% of each years' funding is directed toward aspiring technicians to support tuition, accommodation, and travel costs.

If there is anything additional we can provide please know that we welcome the conversation and are eager to support Fleming in any way that we can.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rick Layzell', with a stylized, cursive script.

Rick Layzell
CEO

March 4, 2021

Pam Stoneham
Dean, School of Trades & technology
Fleming College
599 Brealey Drive
Peterborough, ON, K9J 7B1

Re: Sir Sandford Fleming College Motive Power Technician–Recreational and Sport Vehicles Program

Dear Pam,

Please accept this letter of support from Peterborough & the Kawarthas Economic Development for the development of a Motive Power Technician-Recreational and Sport Vehicles Program in the School of Trades and Technology at Sir Sandford Fleming College (Fleming).

Peterborough & the Kawarthas is a destination for visitors, welcoming over 3 million visitors to the region each year. With hundreds of lakes and the national historic site of the Trent Severn Waterway, this successful tourism economy, is supported by a depth of businesses such as marinas and recreational vehicle sales and service shops. As the lead regional economic development agency for this region, we conduct an annual survey of our businesses to identify local skill gaps in the marketplace. Of the 624 businesses surveyed, 141 identified significant skilled shortages.

Marinas and recreational vehicle sales and service establishments have long identified a skills gap to support this important industry. Fleming's initiative to create a Motive Power Technician program is needed and is enthusiastically supported by economic development. The creation of this program is timely and responds to the needs of our regional businesses.

Yours truly,



Rhonda Keenan
President & CEO
Peterborough & the Kawarthas Economic Development

PETERBOROUGH & THE KAWARTHAS ECONOMIC DEVELOPMENT
270 GEORGE STREET NORTH • SUITE 102 • PETERBOROUGH, ON • K9J
3H1
TEL: 705-743-0777 • FAX: 705-743-3093
WWW.PETERBOROUGHED.CA @PTBOECDEV



March 1st, 2021

Pam Stoneham
 Dean, School of Trades & Technology
 Sir Sandford Fleming College
 599 Brealey Dr.
 Peterborough, ON
 K9J 7B1

Dear Ms. Stoneham,

SUBJECT: Proposal for the addition of Motive Power Technician – Recreational and Sport Vehicles
 Ontario College Diploma

After reviewing the proposed Motive Power Technician – Recreational and Sport Vehicles Ontario College Diploma program that you are looking to create at the college I am very encouraged. As a business principal at Buckeye Marine and as the Canadian Representative of the Marine Retailers Association of the Americas, I cannot express to you the grave need for this type of education in the marine industry. The need for skilled technicians in our industry is not simply a local one. Studies from multiple industry groups* have indicated year over year a shortage in skilled marine trades both at a dealership level and on the manufacturing stage. The course that is being proposed helps to address training for these skills and many qualifications necessary to fill these needed positions.

Marine industry trades are, in many cases, based on skills that are passed down through generations of workers and are lacking a honed training facility and certification program. Our industry in Ontario is fortunate to have a specialized marine technician program at Georgian College at present however, it is very focused on mechanical technicians and there are a number of skills needed in the marine industry that are not covered in their specialized program. In looking at the course offerings you have presented, I believe that you are looking to provide training that is not available by an institution in North America. If this course was available today, even if only in the form of individual courses offering professional development, we at Buckeye would certainly have a number of employees who we would send for training without hesitation.

Lastly, we value the research and planning that you and your team has put into building a course like this to suit the needs of industry and the community. We have always been advocates of supporting the growth of the marine industry and the betterment of the local economy. As such we welcome any opportunity to work with you and the college to ensure the satisfaction and progression of this training in anyway that you see as beneficial. We have been locally owned and operated since 1949 and service almost every facet of the recreational boating industry. We have many tenured employees who have been with us for over 15 years. Through industry associations, years of experience and a multitude of contacts we have knowledge that we are happy to share in order to better prepare workers to enter our industry.

Box 850, Bobcaygeon, ON K0M 1A0 PHONE: (705)738-5151 OFFICE FAX: (705) 738-5154 Email: info@buckeyemarine.com



I look forward to assisting Sir Sandford Fleming College move forward with this powerful and greatly needed program.

Kind Regards,

A handwritten signature in blue ink, appearing to read "CP", is placed over a light blue rectangular background.

Carly Poole

Operations Manager
Buckeye Marine

*Groups reporting include but are not limited to the Marine Retailers Association of the Americas, the National Marine Manufacturers Association (both the Canadian and US offices), Boating Ontario, The BC Marine Trades Association and more.

Box 850, Bobcaygeon, ON K0M 1A0 PHONE: (705) 738-5151 OFFICE FAX: (705) 738-5154 Email: info@buckeyemarine.com



AIRCRAFT COMPLETIONS & MAINTENANCE
FLEXIBILITY, INTEGRITY & INNOVATION

Phone: (705) 742-4688
Fax: (705) 742-8861
www.flyingcolourscorp.com

March 1st, 2021

Pam Stoneham
Dean, School of Trades & Technology
Sir Sandford Fleming College
599 Brealey Drive
Peterborough, ON
K9J 7B1

Dear Pam,

Flying Colours Corp. is a privately owned and operated aviation services company that has been in business since 1989. Our dedicated team of trained technicians provide comprehensive maintenance, repair and overhaul expertise as well as completions, modifications, avionics and paint services for business aircraft. Skilled technical professionals at our North American and Asian facilities use a team-based approach to deliver integrity, technical innovation and service flexibility.

Flying Colours Corp. head office is located at Peterborough Airport (YPQ) where it is the largest employer and the “anchor” tenant. We are an important employer in the local, regional and provincial aerospace cluster. The regional economic development agency has identified the aviation and aerospace sector as a key economic driver for the regional economy, supported by both city and county governments.

In 2008 the City of Peterborough, with support from the provincial and federal governments, initiated a project to develop Peterborough Airport, located in Cavan Monaghan Township, in Peterborough County and since that time the Peterborough Airport has flourished as a driver for regional economic development, significantly supported by the growth of Flying Colours Corp. With a current employment base of 275 in Peterborough, we are experiencing substantial growth and have an immediate need for 60 new employees in various industry related disciplines

Our current \$40,000,000 investment in expansion will add capacity of new product lines contributing substantially to employment opportunities, both directly and indirectly through spin-offs here locally, and in Ontario and Canada. Construction of our 120,000 square foot design, manufacturing and completions hangar is almost complete, with installation of new equipment imminent, and the development of significant engineering and design for customer specific aircraft requirements that will lead to increased global business, investment, and new jobs through technological advancement including the improvement of existing products and processes.

Flying Colours Corp. would be pleased to partner with aerospace and aviation companies in the region and the project lead Fleming College to develop a unique Diploma starting in the Fall of 2022. This project would provide immediate assistance to all participants in supporting skills development specific to the aviation, aerospace and related industries. In addition to the 60 new hires required at our Peterborough location we anticipate this number will grow over the next several years.

There is a shortage of skilled talent worldwide but especially in the Peterborough, Kawartha Lakes and Northumberland region (we have existing employees from all of these communities) and the Motive Power Technician – Recreation and Sport Vehicle Ontario College Diploma (CO-OP) will assist our immediate and future needs as we offer more and more skilled and diverse opportunities in a sector that will continue to see growth for many years to come. Finding team members to support our industry is critical to meet future goals and growth potential. We strongly support this initiative and look forward to contributing to its success with our industry partners.

Sincerely,

John Gillespie
CEO

Kate Ahrens
Director, Corporate Development



1994 Fisher Drive
Peterborough, ON
K9J 6X6

705-742-9773

January 8, 2021

Dear Pam Stoneham, Dean – School of Trades and Technology:

My name is Erin MacKenzie and I am the Instructional Leadership Pathways Consultant for the Kawartha Pine Ridge District School Board (KPRDSB). I am writing on behalf of the Board in support of Sir Sandford Fleming's proposal to introduce, in the fall of 2022, the Motive Power Technician – Recreational and Sport Vehicles Ontario College Diploma. My portfolio with KPRDSB includes Dual Credits, the Ontario Youth Apprenticeship Program, and Cooperative Education. I work directly with each of the 14 high schools in our Board and liaise with local employers and tradespeople. I also work closely with Fleming supporting Dual Credit program opportunities.

KPR strongly supports the introduction of this new program as we believe that it will provide a much needed educational path for students. Currently, there is a labour market gap in the demand for Mechanical Technicians specializing in Aviation, Marine, Recreational Vehicle and Outdoor Power Equipment and the availability of qualified and skilled professionals with expertise in these areas. Students who graduate from this proposed program will benefit from a job market with excellent employment prospects.

In addition, we believe there will be numerous opportunities for KPR to partner with Fleming and create pathways to the Mechanical Technician program through opportunities such as Dual Credits funded through the School College Work Initiative. Our students will also benefit from enhanced opportunities for Ontario Youth Apprenticeship placements and Cooperative Education placements. Fleming has strong community employer support for this program who will benefit from working with and training students while they are still in high school.

Through this letter, we acknowledge that we will further support the Mechanical Technician program by sharing program and admission information with our students and their families by educating KPR's Guidance Counsellors and Cooperative Education teachers. These educators have a direct role in supporting pathway planning for the more than 9000 KPRDSB's secondary students and will work to ensure they are prepared for the curriculum expectations and the learning outcomes of both programs.

We look forward to working with Fleming to provide students with valuable learning and employment opportunities and to meet the growing demands of our recreational and sport vehicle community business partners.

Sincerely,

Erin MacKenzie

Instructional Leadership Consultant, Pathways - Dual Credit, Cooperative Education and Ontario Youth Apprenticeship Program

Kawartha Pine Ridge District School Board

(877)741-4577
(705)742-9773 ext. 2187

erin_mackenzie@kprdsb.ca

11.7. Appendix VII: Incremental Costing Summary Details

Program Costing						
Program Name	Motive Power Technician: Recreation & Sport Vehicles		Date/Version			
Credential	Ontario College Diploma		School Dean		Pam Stoneham	
Gross Domestic Tuition (per semester)	\$ 1,512.57		Net Domestic Tuition (less financial aid 8%)		\$ 1,391.56	
Gross International Tuition (per semester)	\$ 6,775.00		Net International Tuition		\$ 4,975.00	
WFU (WtxFu)	1		Base Operating Grant (BOG) Allocation per WFU (@ corridor mid point)		\$ 4,500.00	
WFU per semester	0.845		Small Northern Rural (SNR) Grant Enhancement		\$ 272.00	
Domestic Enrolment Projections						
Description	FY01	FY02	FY03	FY04	FY05	
Sem1	20	40	60	60	60	
Sem 2	18	36	54	54	54	
Sem 3	0	17	33	49	49	
Sem 4		16	30	45	45	
Sem 5		0	0	0	0	
Sem 6		0	0	0	0	
Total enrolment	38	109	177	208	208	
Co-op if applicable		8	10	15	15	
International Enrolment Projections						
Description	FY01	FY02	FY03	FY04	FY05	
Sem1	0	0	0	0	0	
Sem 2	0	0	0	0	0	
Sem 3	0	0	0	0	0	
Sem 4		0	0	0	0	
Sem 5		0	0	0	0	
Sem 6		0	0	0	0	
Total enrolment	0	0	0	0	0	
Co-op if applicable						
Incremental Costing						
Revenues/Source of Funding						
Description	FY01	FY02	FY03	FY04	FY05	Total
Domestic Tuition	52,879.27	151,680.02	246,306.08	289,444.44	289,444.44	\$ 1,029,754.25
International Tuition	-	-	-	-	-	\$ -
MTCU International clawback	-	-	-	-	-	\$ -
Other (list)						
Co-op funding	-	4,456.00	5,570.00	8,355.00	8,355.00	\$ 26,736.00
	\$ 52,879.27	\$ 156,136.02	\$ 251,876.08	\$ 297,799.44	\$ 297,799.44	\$ 1,056,490.25

Program Delivery Costing						
Description	FY01	FY02	FY03	FY04	FY05	Total
Salaries & Benefits						\$ -
FT Faculty	81,000.00	81,000.00	180,314.03	183,194.03	186,074.03	\$ 711,582.09
PT Faculty	34,344.00	100,872.00	164,808.00	207,144.00	207,144.00	\$ 714,312.00
Program Co-ordinator	22,423.97	22,423.97	22,423.97	22,423.97	22,423.97	\$ 112,119.85
FT Technician	-	-	43,502.48	44,372.53	45,259.98	\$ 133,134.99
PT Technician	18,481.19	31,682.04	-	-	-	\$ 50,163.23
other direct staffing						
						\$ -
Course Supplies/Instructional Cost	16,900.00	35,725.00	44,175.00	53,450.00	53,450.00	\$ 203,700.00
Small Items	2,916.16	-	2,916.16	-	2,916.16	\$ 8,748.49
Computer Software & Maintenance						\$ -
Faculty Travel						\$ -
Equipment Rental and/or Maintenance						\$ -
Other-Office Supplies, Hospitality,Duplicating,	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	\$ 5,000.00
Rental of Approved Space	28,633.54	49,890.50	50,888.31	51,906.07	52,944.19	\$ 234,262.61
add rows above this line as needed						
Program Delivery Costing	\$ 205,698.86	\$ 322,593.51	\$ 510,027.95	\$ 563,490.60	\$ 571,212.33	\$ 2,173,023.25
Incremental Academic Overhead - program supports not directly related to delivery						
Description	FY01	FY02	FY03	FY04	FY05	Total
Faculty support costs						\$ -
Travel and Professional Development		500.00	500.00	500.00	500.00	\$ 2,000.00
Curriculum Quality supports - Review/Renewal			5,000.00	10,000.00	15,000.00	\$ 30,000.00
Other (list and add rows as needed)						\$ -
						\$ -
	\$ -	\$ 500.00	\$ 5,500.00	\$ 10,500.00	\$ 15,500.00	\$ 32,000.00
Program Development/Investment						
Description	FY00	FY01	FY02	FY03	FY04	FY05
Development	57,950.00	49,030.00				
Equipment						
Consulting costs						
Capital expenditures	309,081.11	-	-	25,000.00	25,000.00	25,000.00
Other (list)						
add rows above this line as needed						
Total program development	\$ 367,031.11	\$ 49,030.00	\$ -	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00
Incremental Costing Summary						
	FY00	FY01	FY02	FY03	FY04	FY05
Incremental Revenues		\$ 52,879.27	\$ 156,136.02	\$ 251,876.08	\$ 297,799.44	\$ 297,799.44
Incremental Costs		\$ 205,698.86	\$ 323,093.51	\$ 515,527.95	\$ 573,990.60	\$ 586,712.33
Net Investment	\$ 367,031.11	\$ 49,030.00	\$ -	\$ 25,000.00	\$ 25,000.00	\$ 25,000.00
NET INCOME/CASH	-\$ 367,031.11	-\$ 201,849.59	-\$ 166,957.49	-\$ 288,651.87	-\$ 301,191.16	-\$ 313,912.89
Contribution to Overhead						
Non-Incremental Program Distributions						
Description	FY01	FY02	FY03	FY04	FY05	Total
MTCU Grant	144,495.00	414,472.50	673,042.50	790,920.00	790,920.00	\$ 2,813,850.00
Dean & Other academic staffing supports	1,269.10	3,747.26	6,045.03	7,147.19	7,147.19	\$ 25,355.77
program revenue	197,374.27	570,608.52	924,918.58	1,088,719.44	1,088,719.44	3,870,340.25
program expense	254,728.86	323,093.51	540,527.95	598,990.60	611,712.33	2,329,053.25
Net Contribution to Overhead	-\$ 57,354.59	\$ 247,515.01	\$ 384,390.63	\$ 489,728.84	\$ 477,007.11	\$ 1,541,287.00
% CTO	-29%	43%	42%	45%	44%	
College Overhead Target	65,133.51	188,300.81	305,223.13	359,277.41	359,277.41	348,641.78



Board of Governors

Briefing Note



FLEMING

Topic: New Program Proposal: Electrical Engineering Technology
Report To: Public Board Meeting
Meeting Date: May 26, 2021
Prepared By: Pam Stoneham, Dean School of Trades and Technology

Recommendation

That the Board of Governors of Sir Sandford Fleming College approve the proposed new program, Electrical Engineering Technology.

Overview

- The School of Trades and Technology is proposing a seven semester Ontario College Advanced Diploma program in Electrical Engineering Technology (Optional Co-op).
- This program is the third-year continuation of the existing two-year Electrical Engineering Technician program, as per the existing MCU program standard.
- This program provides the graduate with more depth and breadth of electrical engineering concepts including new technologies and will enable pathways to an Electrical Engineering degree program.
- This seven-semester program is designed with a blend of lecture, lab, hybrid, and experiential learning opportunities including an applied project course, optional co-op semester and/or an internship with Siemens Canada Limited through the Siemens Canada Engineering and Technology Academy (SCETA) program.

Cost/Benefit Analysis

- Total cost to develop this new program is \$286,618
- The projected enrolment and anticipated revenue for Years 1 through 3

	Year 1	Year 2	Year 3
Enrolment (Domestic)	77	142	198
Anticipated Revenue	(\$133,857.50)	\$163,315.50	\$265,469.35

Alignment with Fleming College's Strategic Direction and the Strategic Mandate Agreement

- This new program aligns with our **Strategic Plan** priorities of:
 - *Focusing on the needs of students and employers in the labour market:* Graduates of this program will find a favourable labour market with an estimated 14.2% growth in jobs (or 1,984 jobs) across Ontario by 2026, and a regional job growth estimate of 19.5%.
 - *Being true partners with our community:* Students can partner with industry through applied projects, an optional co-op, and an optional internship through our partnership with Siemens Canada Limited. (Students in the four-semester program are not eligible) Faisal Kazi, President and CEO of Siemens Canada states that the Electrical Engineering Technology program "would provide further opportunity for Siemens to attract Electrical Engineering talent from the local community. The attraction of talent is a key focus area for our organization" (Business Case 11.6 Appendix IV : Letter of Support dated Feb. 16, 2021)

- This program aligns with the first three strategic priorities of the 2019-2024 Jobs First **Academic Plan**:
 - *Responding to the Needs of the Labour Market*: Electrical Engineering Technologists are in demand in the labour market.
 - *Ensuring Students have the Skills & Experience they Need*: proposed new program teaches students the latest skills and knowledge using up-to-date technology and the final semester incorporates applied project work providing a rich experiential component
 - *Delivering Programs that are Relevant*: This program is relevant and directly responsive to the needs of the industry as evidenced by the letter of support provided by Siemens, Ontario Power Generation and KassENGINEERING
- Aligns with **Business Plan 2020-2021** objectives:
 - Objective 2.3.2 - Continue to establish school-specific applied research program plans for each school such that all schools have a plan. Research programs will include a mix of applied research activities that best suit the programs and community/industry partners, such as curriculum integration, capstone projects, applied projects, or externally-funded industry research. The Electrical Engineering Technology program aligns with CAMIIT.
 - Objective 2.3.1 - Enhance pathways and transition support for students transferring from post-secondary institutions, and across programs within the College, as they seek to customize their education and gain the right mix of academic and real-life experience required to meet their employment goals. This program will attract Electrical Engineering Technician graduates from other institutions who are seeking to expand their breadth and depth of electrical engineering skills and abilities.
- The program contributes to the **SMA3** performance metric: *Institutional Strength and Focus*. This metric is currently weighted at 30% and thus enrolment in this program will positively affect future college funding.

Risks and Considerations

- ☐ External Environment ☐ Internal Environment ☐ Financial ☐ Human Resources
☐ Information Technology ☐ Legal ☐ Operational ☐ Strategic ☐ N/A

Check any of the applicable risks above by double clicking on the box and selecting Checked from the default value. If there are no applicable risks check N/A.

Include any additional considerations below:

- Hiring faculty with the higher level of skill and ability for the courses in the third year may pose a challenge.
- Space constraints of the Engineering Commons is a risk. The space is currently shared with Electrical Engineering Technician, Instrumentation and Control Engineering Technician, Mechatronics (graduate certificate), CAMIIT research activity and the Electrical Apprenticeship.

Supporting Documentation

Include the file names of any supporting documentation below:

- EE Technology Business Case

BUSINESS CASE

Electrical Engineering Technology (Optional Co-op)

Date:	May 26, 2021		
Board of Governors:	<input checked="" type="checkbox"/> Decision		
Proposed By:	Pam Stoneham, Dean		
School of Study:	School of Trades and Technology		
Proposed Launch Date:	September 2022		
Offering:	<input checked="" type="checkbox"/> Full-Time <input type="checkbox"/> Part-Time		
Student Enrolment Target:	YEAR 1 = 40	YEAR 3 = 40	YEAR 5 = 40
New Faculty Resources:	2 fulltime new hires (one in year 2 and one in year 3)		
Semesters / Hours:	7 Semesters / 2580 Hours		
Applied Learning Method(s):	<input checked="" type="checkbox"/> Applied Project <input checked="" type="checkbox"/> Co-op/Placement <input type="checkbox"/> Other		
First Graduating Class:	Class of 2025		
Credential Ontario College (OC):	<input type="checkbox"/> OC Certificate <input type="checkbox"/> OC Graduate Certificate <input type="checkbox"/> OC Diploma <input type="checkbox"/> Certificate (Local Board Approved) <input checked="" type="checkbox"/> OC Advanced Diploma		
Program Mapping:	Appendix I: Validation Documents		
Career Opportunities:	Electrical Engineering Technologist; Communications Technologist; Electronics Engineering Technologist		
Proposed Tuition (per Semester):	\$1,290.38 (Domestic); \$7,635.00 (International)		
Program Start-up Cost:	\$286,618.25		
Incremental Costs:	YEAR 1 = \$269,500.77	YEAR 3 = \$625,956.28	YEAR 5 = \$670,144.28
Net Income:	YEAR 1 = -\$389,112.50	YEAR 3 = -\$390,900.65	YEAR 5 = -\$435,088.65
OCQAS Program Validation	<input checked="" type="checkbox"/> Approved APS Number: FLEM 01313		Validation Date: March 3, 2021
MCU Code(s):	65613		
NOC Code(s):	NOC 2241 Electrical and electronics engineering technologists and technicians		
CIP Code(s):	14.10 Electrical, electronics and communications engineering; 15.03 Electrical and electronic engineering technologies/technicians		

Endorsed

☐ Academic Council
 ☒ Program Advisory or Reference Group
 ☒ Senior Management Team
☒ Strategic Enrolment Management
 ☐ Other: _____

Acknowledgements

Thank you to the members of our Electrical Engineering Technology Development Team for their dedication and excellent work in engaging the college community in consultations, research, writing, and responding to feedback. Over the course of our planning and approval process this team involved Pam Stoneham, Katie Surra, Warren Cottrell, Mary Overholt, Shannon Hayes, Jason Dennison, Kris McBride, and the Electrical Engineering PAC members.

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1. Executive Summary

The School of Trades and Technology is proposing a seven semester Ontario College Advanced Diploma program in Electrical Engineering Technology (Optional Co-op). Fleming College currently offers a four semester Electrical Engineering Technician Ontario College Diploma and this diploma program has seen consistent enrolment numbers since 2011 with an average fall headcount (audited) of 149 students.

The proposed Electrical Engineering Technology program provides the opportunity for students to continue their studies and build the necessary skills to enter the labour market or further enhance pathway opportunities to apprenticeship programming or degree programs. This program is the third-year continuation of the existing two-year Electrical Engineering Technician program, as per the existing MCU program standard. This program provides the graduate with more depth and breadth of electrical engineering concepts including new technologies and will enable pathways to an Electrical Engineering degree program.

This seven-semester program is designed with a blend of lecture, lab, hybrid, and experiential learning opportunities including an applied project course, optional co-op semester and/or an internship with Siemens Canada Limited through the Siemens Canada Engineering and Technology Academy (SCETA) program. After the fourth semester, students will have the opportunity to seek employment as a co-op student and then return for their final two semesters.

This program will be unique in eastern Ontario as no other colleges are currently offering this level of credential in Electrical Engineering in our region. The above average conversion rate and continued high student applications bode well for a robust and sustainable program enrollment. The program is also unique in that its enrolment will contribute to the *Institutional Strength and Focus* performance metric of SMA3. This metric is currently weighted at 30% and thus enrolment in this program will positively affect future college funding.

This new program also aligns with our strategic goals of focusing on the needs of students and employers in the labour market. Graduates of this program will find a favourable labour market with an estimated 14.2% growth in jobs (or 1,984 jobs) across Ontario by 2026, and a regional job growth estimate of 19.5%. This program will also contribute to our commitment to being true partners with our community by offering industry partnered applied projects, an optional co-op, and an optional internship through our partnership with Siemens Canada Limited.

The addition of a three-year Electrical Engineering Technology Advance Diploma will allow the School of Trades and Technology to retain students interested in more training in the Electrical Engineering field for an additional year. The contribution to overhead will range between 26 and 30% in years two through four and although the net income is

low, the added enrolment of this program in the *Institutional Strength and Focus* performance metric of SMA3 will support college funding through SMA3.

In closing, this program will be unique to eastern Ontario and create graduates that will be well-prepared to work in the electrical engineering field across several industries with up-to-date knowledge and technical skills including the field of robotics, artificial intelligence, and the aeronautical industry.

2. Program Description

The proposed three-year Electrical Engineering Technology program is an Ontario Advanced Diploma program to be delivered by the School of Skilled Trades and Technology. The face-to-face program is seven semesters long and includes online and blended learning, an applied project, and an optional co-op in semester five. New courses include new technologies used in robotics, process control, digital electronics, and artificial intelligence (AI). Soft skills are taught and reinforced throughout the program including communication skills, teamwork, problem-solving, decision-making and conflict management. Upon graduation, students will have the skills and knowledge to work in the expanding industry of electrical engineering as technologists.

The School has been in partnership discussions with Siemens Canada Limited. Siemens will offer internships to eligible students who are in the Electrical Engineering Technology Advanced Diploma under their Siemens Canada's Dual Education Program for Engineering and Technologist Students. Students who have a GPA of 3.0, and eligible to work in Canada can complete two Siemens terms. Upon completion of these terms, students work for Siemens for a minimum of four years.

The technology level program builds on the strengths of the newly revised Electrical Engineering Technician program. Students who graduate from the two-year program, will have an opportunity to ladder into the fifth or sixth semester of the new advanced diploma program. As shown in Table 1 below, this program shares courses with the two year Electrical Engineering Technician program as well as several courses with other programs such as the Computer Engineering Technology, and the Instrumentation and Control Engineering Technician programs.

Table 1: Electrical Engineering Technology Ontario College Advance Diploma (mapped to MCU code 65613)			
Semester	Course Code	Course Name	Hours
1	MATH 18	Applied Mathematics for Technology I	60
1	COMM 201	Communications I	45
1	COMP 577	Computer for Technologies	45
1	ELCT 90	Drafting Applications and AutoCAD	60
1	ELCT 84	Electricity	60
1	SCIE 141	Physics for Instrumentation	45
1	GNED 152	Technology and Labour: Your Success, Your Future	45
Total Semester 1 hours: 360			
2	ELCT 87	Alternating Current Theory	60
2	MATH 37	Applied Mathematics for Technology II	45
2	ELCT 77	Electrical Prints and Code	45
2	ELCT 105	Electronics I	60
2	CNST 159	Health and Safety Theory Applications	45
2	ELCT 101	Instrumentation I	60
2	GNED 14	Environmental Issues for Industry	45
Total Semester 2 hours: 360			
3	ELCT 117	Electrical Code Calculations	45
3	MECH 99	Fluid Power Systems	45
3	ELCT 89	Law and Ethics in the Electrical Sector	30
3	ELCT 92	Electrical Generation, Transmission and Distribution	60
3	ELCT 88	Electronics II	60
3	COMP 460	Microcontroller Programming and Interfacing	60
3	ELCT 93	Motors and Controls	45
Total Semester 3 hours: 345			
4	ELCT 108	Alternative Energy	45
4	ELCT 94	Microcontroller Embedded Systems	60
4	ELCT 95	Programmable Logic Controllers	60
4	ELCT 134	Project Management for Continuous Improvement	30
4	ELCT 109	AC/DC Motor Drive Controllers	60
4	GNED	General Education Elective	45
4	APST 93	Career Preparation (optional co-op students only)	15
4	ELCT 103	Industrial Computer Networks and Telecommunications	60
Total Semester 4 hours: 375			
5	NEW	Co-op Placement	420
Total Semester 5 hours: 420			
6	NEW 1	Mechatronics for Automation	60
6	NEW 2	Electrical Power Protection and Control	45
6	NEW 3	Electrical III	60
6	NEW 4	Programmable Logic Controllers II	60
6	NEW 5	Electronics III	45
6	MATH 98	Math for Technology III	45
6	NEW 6	Technical Communications	45
Total semester 6 hours:360			
7	NEW 7	Applied Project	105
7	NEW 8	Industrial Robotics I	60

7	ELCT 104	Process Control	60
7	NEW 9	IIoT and Industry 4.0	60
7	NEW 10	Quality and Reliability Management Systems	30
7	NEW 11	Math for Technology IV	45
			Total Semester 7 hours:360
			Total Program Hours: 2580

Detailed curriculum information including vocational learning outcomes, course descriptions, and hours may be found in Appendix I: Validation Documents and Appendix II: MCU Program Delivery Information (PDI).

3. Fleming College Strategic Alignment

3.1. Alignment with Fleming College Strategic Plan

This program aligns with the first commitment of the Fleming Strategic Plan 2019-2024 to focus on the needs of students and employers in the labour market. The program underscores Fleming's commitment to providing top-quality programs that produce sought after graduates with the skills needed to fulfill their career goals. Technology-level graduates are being sought after both regionally and provincially. The labour market for graduates is estimated to have a 14.2% growth in jobs (or 1,984 jobs) across Ontario by 2026, with regional job growth estimated at 19.5%. For more information on the labour market, please see subsection 4.3 - Labour Market Analysis.

This program also aligns with the second commitment of the Fleming College Strategic Plan 2019-2024 in being true partners in our communities. Students in this program will work with industry partners on applied projects, in an optional co-op semester, and/or participating in an internship with Siemens Canada Limited. Businesses such as Siemens have recognized that if employees are trained locally, they are more likely to stay and grow with that company. In fact, the President and Chief Executive Officer of Siemens Canada Limited, Mr. Faisal Kazi, maintains that attracting local talent is a key focus area of their organization (please see Mr. Kazi's letter of support in Appendix VII: Letters of Support). Thus, several local businesses are keen to partner with Fleming College by offering co-op opportunities and applied projects to students as well as employment opportunities for graduates.

3.2. Alignment with Fleming College Academic Plan

This program aligns strongly with the first three strategic priorities of the 2019-2024 Jobs First Academic Plan. Electrical Engineering Technologists are in demand in the labour market which directly responds to the needs of the labour market in the first Academic Plan priority of *Responding to the Needs of the Labour Market*. The Electrical Engineering Technology program also teaches students the latest skills and knowledge using up-to-date technology and the final semester incorporates applied project work

providing a rich experiential component in the program satisfying the second priority of the Academic Plan of *Ensuring Students have the Skills & Experience they Need*. Lastly, this program is relevant and directly responsive to the needs of the industry as evidenced by the letter of support provided by the President and CEO of Siemens Canada Limited (please see Mr. Kazi's letter of support in Appendix VII: Letters of Support) and thus satisfying the third priority of the Academic Plan of *Delivering Programs that are Relevant*.

3.3. Alignment with Fleming College Business Plan

This program aligns most strongly with two Fleming College Business Plan 2020-2021 objectives:

Objective 2.3.2 - Continue to establish school-specific applied research program plans for each school such that all schools have a plan. Research programs will include a mix of applied research activities that best suit the programs and community/industry partners, such as curriculum integration, capstone projects, applied projects, or externally-funded industry research; and

Objective 2.3.1 - Enhance pathways and transition support for students transferring from post-secondary institutions, and across programs within the College, as they seek to customize their education and gain the right mix of academic and real-life experience required to meet their employment goals. This will include pathways for Indigenous students.

This program will increase the amount of applied research with the addition of an applied research project course in semester 6 and will enhance pathways by allowing further study in this field for graduates of the popular Fleming Electrical Engineering Technician program. This program will also create pathways to graduates wishing to continue with a university degree at McMaster and Lakehead Universities.

3.4. Alignment with Other Fleming College Plans

This program may be attractive to International students that wish to continue to pursue an education in electrical engineering after the two-year technician diploma program. However, due to the three-year commitment of this training, it is not seen as a preferred offering to International students.

This program also aligns with the 2019-2022 Fleming College Sustainability Plan in that the program supports green curriculum by supporting goal 3.6 - *Launch new programs supporting sustainability*. This program includes a Project Management for Continuous Improvement course that will teach students the principles of lean project management, maximizing value and minimizing waste. This knowledge will be applied to all work conducted to ensure minimal waste is generated.

4. Ministry of Colleges and Universities Funding Approval Requirements

4.1. Alignment with Strategic Mandate Agreement 3 (SMA3)

Alignment with SMA3 Skills & Job Outcomes Priority Area

The Electrical Engineering Technician Ontario College Diploma is listed in SMA3 in the college's areas of strength and focus. The proposed three-year Technology program will be added to this list and it is highly anticipated that the addition of this three-year program will also increase interest and enrolment into the two-year Technician program in addition to adding students to the Technology program. The overall effect of adding this program to the Fleming College mix would result in an increase in student enrolment in the areas of strength and focus thereby supporting the *Institutional Strength and Focus* performance metric. This metric is weighted at 30% currently and thus the addition of this program will have a positive impact on this metric and resulting future college funding.

This program is also expected to support the *Graduate Employment Rate in a Related Field*, *Graduate Employment Earnings*, and *Experiential Learning* performance metrics. Graduates of this program will be entering a labour market that is expected to see 14.2% growth in jobs and earn a median wage in Ontario of \$32.21/hour. They will also have had an opportunity to complete a co-op term in semester 5, an applied project in semester 6, and an internship with Siemens Canada Limited or other partners such as Ontario Power Generation.

Impacts on Related Fleming Programming and Pathways

This program complements the existing two-year diploma by adding a third year with increased knowledge and skill development. By offering the third year, students will be able to exit after two years with a diploma or graduate with an advanced diploma. This program will not detract from other programs as the same type of student will be attracted to this one that is currently attracted to the two-year program. In fact, the three-year technology program boasts large applicant pools and enrolment will likely increase for the school with this program in place.

Upon graduation, graduates of the program may be interested in pursuing two Fleming College Graduate Certificates: Mechatronics and the proposed Artificial Intelligence program. This will increase enrolment in these programs while expanding the skill sets of students who opt to stay for the additional credential.

McMaster and Lakehead Universities offer pathways for graduates of the Electrical Engineering Technology program. Any graduate of an Advanced Diploma in Electrical Engineering Technology can enter the third year of an Engineering Degree at Lakehead with one bridge mathematics course that can be taken in the summer prior to attending the university. Talks are underway with UOIT for the same type of pathway which would be most advantageous for the local catchment area of students.

This program does not negatively impact other advanced diploma programs as this is the only program in the electrical engineering area.

4.2. Student Demand Analysis

According to the Ontario College Application System (OCAS) a total of 13,453 students applied to Electrical Engineering Technology programs in Ontario colleges from 2014/15 to 2018/19, and 4,604 students (34.2%) confirmed registrants. This conversion rate is higher than the system average for all programs documented in the OCAS system at 32.1%. This demonstrates that this is a popular program for students. In the College Eastern Region, there are presently no colleges actively offering the Electrical Engineering Technology Advanced Diploma program which presents an opportunity for Fleming College to capture the student demand for this program in this region.

This program will also appeal to graduates of high school in Specialist High Skill Major programs in Manufacturing. There is an extensive pool of students from local high schools that offer this specialist major. Local public and catholic school board high schools that offer the Manufacturing Specialist High School Major include St. Peter Catholic High School in Peterborough, St. Stephen Catholic Secondary School in Clarington, Port Hope High School in Port Hope, East Northumberland Secondary School in Brighton, Cobourg Collegiate Institute in Cobourg, and Bowmanville High School in Bowmanville. Marketing to these high schools should prove fruitful in attracting students to this program.

4.3. Labour Market Analysis

Electrical engineering technicians/technologists are represented by a specific National Occupation Classification (NOC) Code (NOC 2241) which allows for a comprehensive examination of hiring demand trends for this occupation. In terms of employment growth, EMSI Analyst reports an estimated 14.2% growth in jobs (or 1,984 jobs) across Ontario by 2026, with regional job growth estimated at 19.5%¹. Primary industries where current employment exists include electric power generation, transmission, and distribution (31.3% of occupations in 2018), and defense services (6.5% of occupations in 2018)². Local employer representation by industry includes Ontario Power Generation, Peterborough Utilities Group, and Hydro One. Planned developments in technology automation, 5G impacts on smart manufacturing facilities and sensor-based applications will further impact the need for qualified workers of which electrical engineering related skills will be critical.

For more detailed information on the labour market, please see Appendix III: Labour Market Information Details. Also, for examples of recent postings, please see Appendix IV: Employment Postings.

4.4. Competitor Analysis

Currently, there are a total of 18 two-year Electrical Engineering Technician diploma programs and 15 three-year Electrical Engineering Technology advanced diploma programs being offered in Ontario; and 13 institutions offer both program types. However, in eastern Ontario, only Algonquin College offers both Electrical Engineering Technician and Technology programs but, as shown in the Table 2 below, Algonquin has not been registering students in the technology program for the past three years. Currently, there are no colleges that offer this level of programming in the College Eastern Region.

As previously in subsection 4.2, the conversion rate of this level of programming is higher than the system average for all programs documented in the OCAS system at 32.1%. As shown in Table 2 below, even with the impacts of Covid, there are still large numbers of applicants (1833 in 2020) interested in the three-year technology program in the province.

Table 2: Total Applications / Registrations by College for Electrical Engineering Technology (MCU code 65613)					
College	2016	2017	2018	2019	2020*
Algonquin*	0/54	0/50	0/0	0/0	0/0
Boreal	0/6	0/18	0/13	0/0	0/0
Cambrian	154/137	193/117	171/71	201/73	146/55
Centennial	335/88	272/96	247/92	253/79	261/85
Conestoga	266/79	233/57	243/62	242/47	232/45
Confederation	116/52	86/32	97/46	71/33	67/26
Fanshawe	346/101	321/97	287/69	251/91	254/47
Georgian	263/129	271/142	243/103	190/66	214/62
Humber	303/96	316/137	267/99	259/167	234/62
Mohawk	371/99	333/105	289/94	316/62	274/58
Niagara	180/52	161/63	134/40	137/40	127/33
Northern	41/0	39/5	27/10	26/0	16/0
Sault	11/6	13/0	12/0	6/17	8/12
Total Applications	2386/899	2238/919	2017/699	1952/675	1833/485

Source: Fall application and registration data pulled from OCAS Data Warehouse using RPT00411 on December 21st, 2020 – Fall term, end of cycle (note: application counts do not include all international applications)

*possible Covid-19 enrolment impacts

**Colleges in the Eastern Region

The Fleming College offering will be unique in that it will be the only active Electrical Engineering Technology program in the Eastern Region. In addition, the program will offer an applied project course, an optional co-op, and an opportunity for students to take

part in the Siemens Canada's Dual Education Program for Engineering and Technologist Students.

Lastly, the program will also provide a laddering opportunity to Fleming graduates of the Electrical Engineering Technician program, and graduates of this diploma program from other Eastern Region colleges. In addition, the three-year option may increase interest in the Fleming Electrical Engineering Technician program, as in the past some students may have chosen other colleges for their technician-level diploma knowing they could ladder into the technology program.

Please refer to Appendix V: Competitor Information Details for more detailed information of all competitor colleges.

5. Community Collaboration

5.1. External Industry Council, Committees or Groups

Letters of support may be found in Appendix VI: Letters of Support.

Council, Committee or Group	Meeting Date	Endorsed (yes/no)
Jobs Council	-	-
Program Advisory Committee (if applicable)	Dec. 7, 2020	yes
Other (Partnership organizations)	-	-

5.2. Reference Group or Program Advisory Committee Members

Member	Position	Organization
Rishi Poddar	Project Manager	Peterborough Utilities
Tom Van Leeuwen	Automation Specialist	OPCODE Systems
Luc Matteau	Principal	IEEE and L. C. Matteau Associates
Kevin Hodgins	Electrical Maintenance Manager	St. Mary's Cement
Clarence Klassen	President	KlassENGINEERING Inc
Ian Almond	General Manager	Siemens
Gerry Gough	FLM, Control Maintenance	Ontario Power Generation

5.3. Fleming College Councils and Committees

Council, Committee or Group	Meeting Date	Endorsed (yes/no)
Senior Management Team	Jan. 8, 2020	yes
Strategic Enrolment Management	Dec. 4, 2019	yes
Academic Council	-	-
Program Implementation Committee	Jan. 29, 2020	yes
Other	-	-

5.4. Fleming College Board of Governors

Item	Meeting Date	Endorsed (yes/no)
Concept Proposal	Nov. 25, 2020	yes
Business Case	May 26, 2021	

6. Resource Requirements

6.1. Staffing

The program will mostly employ existing fulltime and part time faculty that are currently teaching in the Electrical Engineering Technician program. Some hiring of additional part time faculty will be needed and there are two new fulltime hires budgeted in the costing. One will be hired in Year 2 and another one will be hired in Year 3.

6.2. Information Technology

This program will have the same IT requirements as the Engineering Technician program as shown below.

Technology Requirements for the Electrical Engineering Technician and Technology programs:

- PC / Windows
- Operating System: Windows 10
- Processor: Core i5 - 1.6Ghz minimum
- Memory: 8GB minimum
- Hard Disk: 160GB minimum
- Internet Connection: 2.5 Mbps Download and 3.0 Mbps Upload (minimum)

6.3. Equipment

The program will use existing Electrical Engineering Technician equipment and the following new equipment will need to be purchased:

- RetScreen
- National Instruments MultiSim
- Roboguide
- Robotics Motion 1 (2 Fanuc robots)
- Robotics Motion 2 (motor actuators)
- PLC I/O Devices
- Electrical Protection lab devices

6.4. Space

Existing space will be utilized within the D wing of Sutherland campus.

6.5. Capital

The costing includes total capital costs of \$199,064.30 for the following equipment:

- Robotics Motion 1 (2 Fanuc robots)
- Robotics Motion 2 (motor actuators)
- PLC I/O Devices
- Electrical Protection lab devices

7. Financial Analysis

7.1. Incremental Costing Summary

For more detailed information, please see Appendix VII: Incremental Costing Summary Details.

Description	Class of '22 (Year 1)	Class of '23 (Year 2)	Class of '24 (Year 3)	Class of '25 (Year 4)	Class of '26 (Year 5)
Incremental Revenues	\$91,410.52	\$168,575.24	\$235,055.62	\$235,055.62	\$235,055.62
Incremental Costs	\$269,500.77	\$442,241.75	\$625,956.28	\$665,144.28	\$670,144.28
Net Investment	\$211,022.25	\$33,748.00	-	-	-
NET INCOME	-\$389,112.50	-\$307,414.50	-\$390,900.65	-\$430,088.65	-\$435,088.65

7.2. SMA 3 Funding Performance Metrics Assessment

The Electrical Engineering Technician Ontario College Diploma is listed in SMA3 as a program in the areas of strength and focus. The proposed three-year Technology program will be added to this list and will result in an increase in student enrolment in the areas of strength and focus thereby increasing the *Institutional Strength and Focus* performance metric which currently is weighted at 30%. This program is also expected to support the *Graduate Employment Rate in a Related Field*, *Graduate Employment Earnings*, and *Experiential Learning* performance metrics.

7.3. Program Costing Assumptions

Program costing assumes one intake in the fall per year, 91% retention between semesters, and enrollment of 40 students in semester 1 every year. The costing also includes the hiring of two fulltime faculty (one in year 2 and one in year 3).

7.4. Financial Risks

Financial risks include low enrolment, and recruitment of qualified fulltime and contract faculty to develop and teach the new curriculum.

7.5. Countermeasures

Using existing fulltime faculty from other programs (e.g., Mechatronics, and Instrumentation and Control Engineering Technician) will help to mitigate the inability to find qualified faculty.

Increased internal marketing to Electrical Engineering Technician students and targeting of appropriate high school manufacturing specialist major programs will help to mitigate low enrolment.

8. Quality Assurance

Fleming College is committed to quality assurance processes that promote excellence in the development, design, delivery, and ongoing review of new and existing academic programs. Mechanisms are in place to demonstrate accountability to Fleming College students, the Board of Governors, the Ministry of Training, Colleges and Universities, and the communities we serve that will ensure all academic program meet or exceed the relevant quality standards including an ongoing and systematic program review process. *(See College Policy #2-213: Program Quality Assurance)*

9. Conclusion / Recommendation

THAT the Board of Governors of Sir Sandford Fleming College approve the Electrical Engineering Technology Ontario College Advanced Diploma (Optional Co-op) program for launch in September 2022.

10. References

- ¹Fourtane, S. (2019, January 30). Engineering technology trends to watch in 2019 [Weblog post]. Retrieved from <https://interestingengineering.com/engineering-technology-trends-to-watch-in-2019>.
- ²Job Bank (2020) accessed Feb 25, 2020 at <https://www.jobbank.gc.ca/outlookreport/occupation/18017>
- ³Ryan, Andrea. (2018). 3 Major Trends Disrupting the Engineering Industry. *Design Group Staffing*. Calgary, AB. Retrieved December 4, 2018 from <https://www.dg.ca/blog/3-major-trends-disrupting-the-engineering-industry>
- ⁴Voosen, Kyle. (2017). Five technology trends for 2018. *Control Engineering*. Downers grove, IL. Retrieved December 3, 2018 from <https://www.controleng.com/articles/five-technology-trends-for-2018/>

11. Appendices

11.1. Appendix I: Validation Documents



Ontario College Quality Assurance Service
Service de l'assurance de la qualité des
collèges de l'Ontario

*Suite 606 - 130 Queens Quay East,
Toronto, ON, M5A 0P6*

Program Validation Decision

We have completed our validation of your application for the Electrical Engineering Technology program submitted to us on March 3, 2021 and leading to the conferring of an Ontario College Advanced Diploma.

Please accept this as our validation of your proposal. As a signal of our validation decision, we have assigned the following Approved Program Sequence (APS) number to your program: FLEM01313.

A copy of this validation decision is being sent to the Ministry of Colleges and Universities (MCU) for their information and records.

However, in keeping with the MCU process for college program funding approvals, we have not sent your documents to the Ministry. Please be advised that you need to submit the documentation directly to the Ministry to complete the approval for funding request, if applicable.

The required documents for the Ministry's funding approval decision are the Board Attestation form, signed by your college president, the Program Delivery Information (PDI) form, and the completed Application for Program Validation form (CVS).

The Ministry will reply separately to your request for funding approval of your program.

Sincerely,

Sara Barnes
March 3, 2021



Ontario College Quality Assurance Service
Service de l'assurance de la qualité des
collèges de l'Ontario

Electrical Engineering Technology

Validated

Standard

Fleming College | APS # FLEM01313 | MTCU # 65613
Ontario College Advanced Diploma | Full-time funding requested

Purpose

Graduates of the program have had exposure to a range of electrical engineering functions, such as designing or adapting, analyzing, troubleshooting commissioning, installing and repairing a variety of electrical circuits, equipment, and systems, under the supervision of a qualified person. Graduates have also had exposure to quality control and assurance programs and have applied communication, documentation, computer applications, information technology, and teamwork skills to support the electrical engineering activities of an organization.

Admission Requirements

Ontario Secondary School Diploma (OSSD) or equivalent, mature student status

Additional requirements:

Minimum final grade in Grade 12 college math of 60%

Completion of high school physics course is recommended.

Occupational Areas

Electrical and electronics engineering technologists and technicians (NOC 2011-2241) may work independently or provide technical support and services in the design, development, testing, production and operation of electrical and electronic equipment and systems. They are employed by electrical utilities, communications companies, manufacturers of electrical and electronic equipment, consulting

firms, and in governments and a wide range of manufacturing, processing and transportation industries. Common job titles include communications technologist, electrical engineering technician, electrical engineering technologist, electronics design technologist, electronics engineering technician, electronics engineering technologist, electronics manufacturing technician, electronics manufacturing technologist, lighting technologist, metering technologist, microwave maintenance technician, production support technician - electronics manufacturing, electricity distribution network technologist. In terms of employment growth, EMSI Analyst reports an estimated 14.2% growth in jobs (or 1,984 jobs) across Ontario by 2026, with regional job growth estimated at 19.5%

Laddering Opportunities

The Electrical Engineering Technology program provides the opportunity for students to continue their studies and build the necessary skills to enter the labour market or further enhance pathway opportunities to apprenticeship programming or degree programs. This program is the 3rd year continuation of the existing 2-year Electrical Engineering Technician program, as per the existing MTCU program standard. This program provides the graduate with more depth and breadth of electrical engineering concepts including new technologies and will enable pathways to an Electrical Engineering degree program. This six-semester program is designed with a blend of lecture, lab, hybrid, and experiential learning opportunities including an optional co-op semester. After the fourth semester, students will have the opportunity to seek employment as a co-op student and then return for their final semester. A fourth semester exit with an Ontario College Diploma will also be incorporated into the program and graduates of either the 2- or 3-year programs could seek an electrical apprenticeship. Graduates of the program may be interested in pursuing graduate certificates, including Mechatronics and AI/VR, or a degree in Electrical Engineering from Lakehead University, who offers a pathway into the third year of an Engineering degree with four bridge mathematics courses that can be taken in the summer prior to attending the university.

Program VLOs

1. analyze, interpret, and produce electrical and electronics drawings, technical reports including other related documents and graphics.
2. analyze and solve complex technical problems related to electrical systems by applying mathematics and science principles.
3. design, use, verify, and maintain instrumentation equipment and systems.
4. design, assemble, test, modify, maintain and commission electrical equipment and systems to fulfill requirements and specifications under the supervision of a qualified person.

5. commission and troubleshoot static and rotating electrical machines and associated control systems under the supervision of a qualified person.
6. design, assemble, analyze, and troubleshoot electrical and electronic circuits, components, equipment and systems under the supervision of a qualified person.
7. design, install, analyze, assemble and troubleshoot control systems under the supervision of a qualified person.
8. use computer skills and tools to solve a range of electrical related problems.
9. create, conduct and recommend modifications to quality assurance procedures under the supervision of a qualified person.
10. prepare reports and maintain records and documentation systems.
11. design, install, test, commission and troubleshoot telecommunication systems under the supervision of a qualified person.
12. apply and monitor health and safety standards and best practices to workplaces.
13. perform and monitor tasks in accordance with relevant legislation, policies, procedures, standards, regulations, and ethical principles.
14. configure installation and apply electrical cabling requirements and system grounding and bonding requirements for a variety of applications under the supervision of a qualified person.
15. design, commission, test and troubleshoot electrical power systems under the supervision of a qualified person.
16. select and recommend electrical equipment, systems and components to fulfill the requirements and specifications under the supervision of a qualified person.
17. apply project management principles to contribute to the planning, implementation, and evaluation of projects.

Curriculum

- **MATH 18 - Applied Mathematics for Technology I**

> Semester 1 | 60 hours

This course will challenge students to acquire and apply the foundational mathematical skills important for their success in many technical programs. The course is designed to complement and reinforce learning within other first semester and subsequent courses in their program of study. Key topics that will be covered include essential algebra skills, right angle trigonometry and vectors.

- **COMM 201 - Communications I**
> Semester 1 | 45 hours
Communications I is an introductory course that provides a foundation in college-level communications by teaching students to read critically, write appropriately for a variety of audiences, conduct and cite research, and revise for clarity and correctness. In seminars and labs, students will engage in both independent and collaborative activities, including the development of a digital portfolio designed to help them become more effective communicators in academic and professional environments.
- **COMP 577 - Computer for Technologies**
> Semester 1 | 45 hours
This course introduces the student to computing and Information Technology used in today's devices and networks. Students will develop a basic understanding of computer hardware, software, operating systems, programming languages and data communications required to form an integrated Information system. Emphasis will be placed on personal/industry computer use along with specific applications such as MS Word, Excel, and PowerPoint. This will ensure students can use computing and software applications as a communication, documentation and problem solving tools.
- **ELCT 90 - Drafting Applications and AutoCAD**
> Semester 1 | 60 hours
This course teaches students to use AutoCAD software to replicate, modify and create electrical drawings and create 3D models using Autodesk Inventors. AutoCAD software fundamentals are taught, including drawing and modifying objects, creating and inserting dynamic blocks, using layers and creating layouts. Students are taught to identify, create and modify basic electrical symbols and how to generate single line, schematic and wiring diagrams. Students are introduced to 3D modelling principals, creating parts and assemblies, multi view drawings, parts lists and assembly presentations.
- **ELCT 84 - Electrical I**
> Semester 1 | 60 hours
This course introduces students to the fundamental concepts of electricity and electrical test equipment. Topics to be covered include basic DC and AC principles, such as voltage, current, resistance, power and the laws that govern them. Students will also learn how to work with components such as resistors, inductors, capacitors and test equipment, including digital multimeters, power supplies and oscilloscopes. Upon completion of the course, students will be able to construct and analyze simple DC and AC circuits and use test equipment to verify their operation and troubleshoot them as needed. Students will also be introduced to the basic concepts of semiconductors and the P/N junction diode and to basic digital logic to help prepare them for courses in the following semester.
- **SCIE 141 - Physics for Instrumentation**
> Semester 1 | 45 hours

This is a study of the physics underlying the principles of motion, mechanics, light and sound. The analysis and modelling of these phenomena are done using the appropriate mathematical techniques computer software and the laboratory experiments.

- **GNED 152 - Technology and Labour: Your Success, Your Future**
> Semester 1 | 45 hours | *General Education*
"Technology and Labour: Your success, Your future", will explore success and all the influences that guide decisions to form one's sense of achievement, as well as the ways technology impacts this. In this hybrid course, students will examine not only what success is, but they will explore and develop skills in scientific and critical thinking, which will help them find their own success. Students will engage in experiential learning activities designed to help them develop an understanding of how technology impacts their professional success, and the labour force in general.
- **ELCT 87 - Electrical II**
> Semester 2 | 60 hours
This course will provide the student with a broad-based foundation in alternating current (AC) theory and analysis. Through the application of technical mathematical concepts, students will learn to analyze the full spectrum of alternating current. AC power and power factor in modern generation and distribution systems will be explored. The analysis, design, and testing of electrical distribution systems will be studied. Practical application of AC in various circuit configurations and components will be conducted.
- **MATH 37 - Applied Mathematics for Technology II**
> Semester 2 | 45 hours
Applied Mathematics for Technology II prepares students mathematically for a variety of technical fields. The topics covered are: complex numbers, variation, exponents and radicals, trigonometric functions, exponential and logarithmic functions, topics from analytic geometry and basic statistical analysis including linear regression.
- **ELCT 77 - Electrical Safety, Prints and Code**
> Semester 2 | 45 hours
Upon successful completion of this course, the learner will be able to apply the requirements of the Canadian Electrical code - Part 1 (CEC); identify and interpret the general requirements of the CEC; identify and interpret the CEC requirements for conductor ampacity including free air, above and underground installations, grounding and bonding, wiring methods and installation of manufacturing equipment in an industrial setting; material take off and preparation of permit application. This course gives the learner the ability to read, interpret and apply basic information found in engineered drawings, designs, specifications, and the Canadian Electrical Code, with respect to an industrial environment. There will also be an introduction to Electrical Safety and the CSA Workplace Electrical Safety Standard CSA-Z462.
- **ELCT 105 - Electronics I**
> Semester 2 | 60 hours

This course is an introduction to semiconductors, including the diode family, the bipolar junction transistor (BJT) and the field effect transistor (FET). Applications of these devices are examined including the full-wave capacitor filtered rectifier, the BJT and FET switch and both small signal and power BJT amplifiers. Students learn to design, construct, analyze, and test electronic circuitry at the "breadboard" level. Students explore Digital logic and interfacing with microprocessors.

- **CNST 159 - Health and Safety Theory Applications**

- > Semester 2 | 45 hours

- This course has been designed for students entering trades and technology programs. The course will cover current legislation (O.H.S.A.) and health and safety procedures used in the industry. Students will obtain fundamental level safety certification in WHMIS, Fall Protection, Confined Space Identification, and Hoisting and Rigging. The theory for this course will be offered online and the application component will offered onsite.

- **ELCT 101 - Instrumentation I**

- > Semester 2 | 60 hours

- This course will allow the student to select, install, configure, calibrate and test pressure, temperature, sound and light sensing, measuring, indicating and controlling devices using both SI and imperial scales to meet the requirements of the process.

- **GNED 14 - Environmental Issues for Industry**

- > Semester 2 | 45 hours | *General Education*

- This course is designed for students who will work in an industrial setting. The course takes a broad look at environmental issues relating to industrial practices. In some cases, technical details of recovery/recycling processes are covered. Topics include industry's effect on and remediation of natural resources such as water, air, soil, and biotic life. New approaches by industry toward sustainability and waste management are also included.

- **ELCT 117 - Electrical Code Calculations**

- > Semester 3 | 45 hours

- The student will study the Ontario Electrical Safety Code and apply the Code rules and standards to determine the ampacity of conductors in various conditions; determine the correct size of conduit for multiple conductors; simple and complex electrical systems with overcurrent and overload protection design considerations; fault current available in simple and complex electrical systems.

- **MECH 99 - Fluid Power Systems**

- > Semester 3 | 45 hours

- This course will provide the student with a working knowledge of hydraulics and fluid mechanics, including instrumentation and measurement techniques. Using pneumatic components in a lab setting students design and build working pneumatic circuits, learn to read interpret and create pneumatic and hydraulic circuit diagrams using standard symbols and model circuit operation using industry standard software.

- **ELCT 89 - Law and Ethics in the Electrical Sector**

- > Semester 3 | 30 hours

This course will introduce students to the legislative and regulatory bodies influencing the practice of the professional Electrical Engineering Technician/Technologist. Both federal and provincial associations monitoring and governing the practice will be discovered. The array of professional issues that impact the practice of the technician will be explored. Students will be prepared to successfully challenge the Ontario Association of Certified Engineering Technicians and Technologist (OACETT) Professional Practice Examination to become a Certified Technician.

- **ELCT 92 - Electrical Generation, Transmission and Distribution**

- > Semester 3 | 60 hours

- This course will introduce the student to the electrical power grid design, operation, and maintenance. The principles of electrical generation, transmission, and distribution will be investigated. Analysis and application of 3 phase power transformers and power system instrument transformers will be examined. Strategies to minimize power loss, minimize system costs, and optimize operation in the grid system of distribution will be explored. Power system protection and control will be introduced.

- **ELCT 88 - Electronics II**

- > Semester 3 | 60 hours

- This course provides the foundational theory required to understand electronic circuits with AC and DC sources. The learner will acquire the theoretical and practical knowledge necessary to install, maintain, and troubleshoot circuits which employ discrete semiconductor components. Electronic components and circuits such as diodes, SCRs, triacs, triggering systems, bipolar junction transistors, field effect transistors, solid state switching devices, and photosensitive devices will all be explored.

- **COMP 460 - Microcontroller Programming and Interfacing**

- > Semester 3 | 60 hours

- This course in microcontroller programming emphasizes problem-solving strategies, coding design, debugging methods, and program documentation. This course uses the microcontroller and the C programming language to expose the students to various fundamental programming and interfacing techniques. Analytical and troubleshooting skills are further developed through lab experiments involving input/output operations, interrupts and data transfer for data acquisition.

- **ELCT 93 - Motors and Controls**

- > Semester 3 | 45 hours

- The student will study and discover through applied learning, the safe and proper techniques to control various types of AC and DC motors. Additionally, the student will discover the manufactured construction of DC and both single-phase and three-phase AC motors as well as the efficiencies and best use for the industry application.

- **ELCT 108 - Alternative Energy**

- > Semester 4 | 45 hours

- Students will investigate the current and future of alternative energy generation. Solar electric, Solar heat, Wind, Biomass, Alcohol, Geothermal, Hydro Electric, and Hydrogen technologies are

explained, discussed and compared. Traditional heating units like electricity, gas and oil will be compared with alternative energy sources. Students will learn the cost and benefits of using alternative energy supplies. Students will be given an understanding of inverter technologies, distribution and storage of renewably generated electricity. Using industry standard software, students will evaluate the environmental and economic dimensions of large and small scale renewable projects.

- **ELCT 94 - Microcontroller Embedded Systems**

- > Semester 4 | 60 hours

- Upon successful completion of this course, the learner will be able to interface a variety of sensors, servo motors, control systems and electronic circuits by programming microprocessors to develop complete automated digital systems. Students work on an applied project using high level programming languages to integrate a variety of sensors, including wireless networking hardware, into an applied project using current microprocessor technology. Project management strategies, including technical documentation and team working skills are emphasized throughout the process.

- **ELCT 95 - Programmable Logic Controllers I**

- > Semester 4 | 60 hours

- Building on Electrical Concepts, this course will introduce students to the functions and applications of Programmable Logic Controllers (PLC). PLC instructions for the programming of common relays, timers, counters, mathematic functions, and word comparisons will all be covered. Students will practice identification methods and hard wiring of PLC's to equipment. Methods of testing PLC inputs and outputs will be studied and practiced. Students will design programs to control machines and processes to solve typical industrial problems.

- **ELCT 134 - Project Management for Continuous Improvement**

- > Semester 4 | 30 hours

- Students develop their project management skills by working in teams to develop and implement a technical project. Using skills developed throughout the program, students will form teams, identify and plan a project and work towards achieving their project goals. Using project management software and documents, students will assist in the estimation of time, monitoring of resources, consolidation of project updates, and completion of project elements according to schedule. Along the way students will be introduced to continual improvement methods.

- **ELCT 109 - AC/DC Motor Drive Controllers**

- > Semester 4 | 60 hours

- The student will study and discover through applied learning the safe and proper techniques involved in using AC and DC drives to control speed and performance of AC and DC motors. Students will explore drive hardware and how it can be divided into logical sub-units. Common requirements and characteristics of drives will be explored. Additionally they will practice adjusting drive parameters to match drives to motors and motors to domestic and industrial applications.

- **GNED 3 - General Education Elective**

> Semester 4 | 45 hours | *Elective* | *General Education*

Students will choose a general education elective course.

- **APST 93 - Career Preparation**

> Semester 4 | 15 hours | *Elective*

This course is designed to equip students with the skills needed for their work search and to develop and enhance career planning skills. Students will learn how to write competitive job search documents, interview with confidence, and will develop and use their career portfolio as a tool to identify and incorporate career goals into the job search process.

- **ELCT 103 - Industrial Computer Networks and Telecommunications**

> Semester 4 | 60 hours

This course introduces the architecture, structure, functions, components, and models of the Internet and other serial communication protocols. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. Applications of computer networking for control and communication systems will be explored.

- **NEW Co-op - Co-op Placement**

> Semester 5 | 420 hours | *Elective*

Students will have the opportunity to complete a 420-hour co-op work experience in a related field. This co-op work experience will allow students to apply the skills they have developed in the program thus far.

- **NEW 1 - Mechatronics for Automation**

> Semester 6 | 60 hours

Mechatronics is the application of electronic control devices to integrate with various actuators to control machine operation. This course will explore various actuators used, application and integration design principles, and how to implement machine control and automation using PLCs, actuators, and machinery.

- **NEW 2 - Electrical Power Protection and Control**

> Semester 6 | 45 hours

This course will further develop the students' knowledge regarding proper selection and application of electrical protection devices including digital motor protection relays, transformer protection relays, power distribution monitoring and control devices such as automatic tap changers, VAR compensation devices, reclosers, and power quality monitoring equipment.

- **NEW 3 - Electrical III**

> Semester 6 | 60 hours

This course will build on the basic AC circuit analysis introduced in ELCT 87 and further develop the students' applied mathematical analysis and working skills in 3 phase balanced and imbalanced electrical circuits and systems. Typical industrial applications of 3 phase power such as proper selection of cable size, fuse size, starter size for industrial motors and large lighting systems will be demonstrated.

- **NEW 4 - Programmable Logic Controllers II**

> Semester 6 | 60 hours

Programmable Logic Controllers are the basic component of many machine control and industrial automation systems. This course will build on the concepts and skills learned in the introductory PLC course to develop additional knowledge of specialized PLC hardware and programming techniques. Advanced PLC functions such as motion control, PID control, analog I/O, networking, HMI, and alternate programming languages such as function block, structured text, and sequential flow chart will be studied. Supervisory Control and Data Acquisition Systems (SCADA) will be introduced as well as Distributed Control Systems (DCS) and how PLCs integrate with these other control systems. Students will work on PLC workstations with current industry hardware, software, and simulation environments.

- **NEW 5 - Electronics III**

> Semester 6 | 45 hours

This course will provide the students with an introduction to digital electronics, logic design including programmable logic devices (PLD). Using low-level fixed function devices to highly complex programmable, erasable and reprogrammable devices will allow the student to experience the digital development life cycle associated with computer system design.

- **MATH 98 - Math for Technology III**

> Semester 6 | 45 hours

This course is the third in a series of technology mathematics courses that are mandatory for students pursuing a technology diploma. All topics are covered with applicable problem sets both analytically and with the use of technology. The topics covered include: matrix algebra, limits, derivatives of algebraic and transcendental functions and their applications, selected methods of integration, differential equations, Laplace transforms, Maclaurin and Taylor series.

- **NEW 6 - Technical Communications**

> Semester 6 | 45 hours

This course develops written communication and documentation skills in technical environments. Students will present technical information in appropriate formats which meet professional/workplace standards. Students will write a formal report, quality control documentation, inspection reports, project scope specifications, work order instructions, and/or other formats demonstrating technical documentation. The formal report will meet the requirements of OACETT Technology Report Guidelines and can be used to support future graduate certification with OACETT.

- **NEW 7 - Applied Project**

> Semester 7 | 105 hours

In this course, students will complete an applied project utilizing various technical skills and devices that they have worked with in the program or working with a community research or project partner to meet a specific project goal. Project management aspects of scope specification and control, budget, and time management as well as documentation, teamwork, and

presentations will be demonstrated by the student and a portion of this course time will be self-directed by the student.

- **NEW 8 - Industrial Robotics I**

- > Semester 7 | 60 hours

- Students will work with various robotic technologies and will learn to program, test, and use industrial robots for various applications. The course will present different types of robots, machine automation safety, robotic actuators, vision systems, position feedback, stepper and servo motors, robot programming and testing, integration of various machine control techniques, and new developments in robot design and application.

- **ELCT 104 - Process Control**

- > Semester 7 | 60 hours

- This course provides the learner with an in-depth practical knowledge of process control, measurement and tuning. The topics covered include Feed Back, Feed Forward, PID, Cascaded control, Process block diagrams, loop tuning, trouble shooting, device specification, and Labview software interfaces.

- **NEW 9 - IIoT and Industry 4.0**

- > Semester 7 | 60 hours

- This course will introduce students to new technologies and trends related to industrial automation. The subjects covered will include Industrial Internet-of-Things (IIoT) hardware devices, components, functionality, applications and integration with data communication networks, the architecture and framework of IIoT, Low Powered Wide Area Network (LPWAN), process and factory simulation techniques and tools for modeling, design, and testing of automation control systems.

- **NEW 10 - Quality and Reliability Management Systems**

- > Semester 7 | 30 hours

- This course will involve the study and application of various modern industrial quality control, problem solving, efficiency and reliability systems including ISO9000, root cause failure analysis, fishbone diagrams, 6 Sigma, Lean manufacturing, and other documentation and methods.

- **NEW 11 - Math for Technology IV**

- > Semester 7 | 45 hours

- This advanced applied Math course will apply Math principles and techniques to real electrical engineering application problems and examples. Applied calculus, electromagnetic field studies, power distribution analysis, control feedback system analysis and other applications will be demonstrated by the student.

VLO Mapping

	VLO 1	VLO 2	VLO 3	VLO 4	VLO 5	VLO 6	VLO 7	VLO 8	VLO 9	VLO 10	VLO 11	VLO 12	VLO 13	VLO 14	VLO 15	VLO 16	VLO 17
MATH 18		X		X				X									
COMM 201	X									X							
COMP 577	X	X						X			X						
ELCT 90	X							X		X							
ELCT 84	X	X	X	X		X		X		X							
SCIE 141		X	X					X		X							
GNED 152																	
ELCT 87	X	X	X	X	X	X		X		X		X		X	X	X	
MATH 37		X		X				X									
ELCT 77	X	X		X				X		X		X	X	X			
ELCT 105	X	X	X	X		X	X	X		X		X		X	X	X	
CNST 159		X										X	X				

	VLO 1	VLO 2	VLO 3	VLO 4	VLO 5	VLO 6	VLO 7	VLO 8	VLO 9	VLO 10	VLO 11	VLO 12	VLO 13	VLO 14	VLO 15	VLO 16	VLO 17
ELCT 101	X	X	X	X	X	X	X	X		X				X	X	X	
GNED 14																	
ELCT 117	X	X						X		X	X	X	X	X	X	X	
MECH 99	X	X	X	X	X	X	X	X		X	X					X	
ELCT 89								X		X		X	X				
ELCT 92	X	X	X	X	X	X	X	X		X	X	X		X	X	X	
ELCT 88	X	X	X	X		X	X	X		X				X	X	X	
COMP 460				X		X	X	X		X							X
ELCT 93	X	X	X	X	X	X	X	X		X		X		X	X	X	
ELCT 108	X	X	X	X		X	X	X		X	X	X		X	X	X	
ELCT 94	X	X	X	X	X	X	X	X		X						X	X
ELCT 95	X	X	X	X	X		X	X		X	X	X				X	
ELCT 134								X	X	X							X

	VLO 1	VLO 2	VLO 3	VLO 4	VLO 5	VLO 6	VLO 7	VLO 8	VLO 9	VLO 10	VLO 11	VLO 12	VLO 13	VLO 14	VLO 15	VLO 16	VLO 17
ELCT 109	X	X	X	X	X	X	X	X		X	X			X	X	X	
GNED 3																	
APST 93																	
ELCT 103	X		X	X		X	X	X		X				X		X	
NEW Co-op	X	X	X	X		X	X	X		X		X	X		X		X
NEW 1	X	X	X	X	X	X	X	X		X	X			X		X	
NEW 2	X	X	X	X		X	X	X	X	X	X	X	X		X	X	
NEW 3	X	X	X	X	X	X		X		X					X		
NEW 4	X		X	X	X	X	X	X		X	X	X	X			X	
NEW 5	X	X	X	X		X	X	X		X						X	
MATH 98		X		X						X							
NEW 6	X									X							X
NEW 7	X	X		X				X	X	X		X	X	X		X	X
NEW 8	X	X	X	X	X	X	X	X		X		X	X	X		X	
ELCT 104	X		X	X		X	X	X		X	X	X		X		X	
NEW 9	X	X	X	X		X	X	X		X	X	X		X		X	

	VLO 1	VLO 2	VLO 3	VLO 4	VLO 5	VLO 6	VLO 7	VLO 8	VLO 9	VLO 10	VLO 11	VLO 12	VLO 13	VLO 14	VLO 15	VLO 16	VLO 17
NEW 10	X							X	X	X			X				X
NEW 11		X		X						X							

EES

1. Communication: a) Reading, b) Writing, c) Speaking, d) Listening, e) Presenting, f) Visual literacy. 1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.
2. Communication: a) Reading, b) Writing, c) Speaking, d) Listening, e) Presenting, f) Visual literacy. 2. Respond to written, spoken, or visual messages in a manner that ensures effective communication.
3. Numeracy: a) Understanding and applying mathematical concepts and reasoning, b) Analyzing and using numerical data, s) Conceptualizing 3. Execute mathematical operations accurately.
4. Critical thinking & problem solving: a) Analysis, b) Synthesising, c) Evaluating, d) Decision making, e) Creative and innovative thinking 4. Apply a systematic approach to solve problems.
5. Critical thinking & problem solving: a) Analysis, b) Synthesising, c) Evaluating, d) Decision making, e) Creative and innovative thinking 5. Use a variety of thinking skills to anticipate and solve problems.
6. Information management: a) Gathering and managing information, b) Selecting and using appropriate tools and technology for a task or a project, c) Computer literacy, d) Internet skills 6. Locate, select, organize, and document information using appropriate technology and information systems.
7. Information management: a) Gathering and managing information, b) Selecting and using appropriate tools and technology for a task or a project, c) Computer literacy, d) Internet skills 7. Analyze, evaluate, and apply relevant information from a variety of sources.
8. Interpersonal: a) Team work, b) Relationship management, c) Conflict resolution, d) Leadership, e) Networking. 8. Show respect for the diverse opinions, values, belief systems, and contributions of others.
9. Interpersonal: a) Team work, b) Relationship management, c) Conflict resolution, d) Leadership, e) Networking. 9. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
10. Personal: a) Managing self, b) Managing change and being flexible and adaptable, c) Engaging in

reflective practice, d) Demonstrating personal responsibility. 10. Manage the use of time and other resources to complete projects.

11. Personal: a) Managing self, b) Managing change and being flexible and adaptable, c) Engaging in reflective practice, d) Demonstrating personal responsibility. 11. Take responsibility for one's own actions, decisions, and consequences

12. Communication (FR).

13. Interpersonal (FR).

EES Mapping

	EES 1	EES 2	EES 3	EES 4	EES 5	EES 6	EES 7	EES 8	EES 9	EES 10	EES 11	EES 12	EES 13
MATH 18			X								X		
COMM 201	X	X				X		X	X		X		
COMP 577	X												
ELCT 90	X					X				X			
ELCT 84	X		X			X				X			
SCIE 141			X				X						
GNED 152													
ELCT 87	X		X			X							
MATH 37			X										
ELCT 77		X	X			X	X						
ELCT 105	X		X			X							
CNST 159		X					X		X		X		
ELCT 101	X		X			X				X			

	EES 1	EES 2	EES 3	EES 4	EES 5	EES 6	EES 7	EES 8	EES 9	EES 10	EES 11	EES 12	EES 13
GNED 14													
ELCT 117		X	X				X				X		
MECH 99	X		X			X				X			
ELCT 89		X					X	X	X		X		
ELCT 92	X		X			X				X			
ELCT 88	X		X			X				X			
COMP 460	X			X	X	X				X			
ELCT 93			X			X				X			
ELCT 108			X			X				X			
ELCT 94				X	X		X			X			
ELCT 95	X	X		X	X	X				X	X		
ELCT 134	X	X		X	X	X		X	X		X		
ELCT 109			X			X				X			
GNED 3													
APST 93													
ELCT 103	X			X	X								
NEW Co-op	X	X	X	X	X	X	X	X	X	X	X		
NEW 1						X				X			
NEW 2	X			X	X	X					X		
NEW 3			X			X							

	EES 1	EES 2	EES 3	EES 4	EES 5	EES 6	EES 7	EES 8	EES 9	EES 10	EES 11	EES 12	EES 13
NEW 4	X	X		X	X	X				X	X		
NEW 5						X				X			
MATH 98			X										
NEW 6	X	X				X		X	X		X		
NEW 7				X	X				X	X	X		
NEW 8						X				X			
ELCT 104	X		X			X				X			
NEW 9				X	X		X			X	X		
NEW 10	X	X		X	X	X	X		X		X		
NEW 11			X										

Certification/Accreditation

Certification type

Voluntary recognition of a regulatory authority is being sought.

Recognition by Voluntary Association

Name of voluntary association: Technology Accreditation Canada (TAC) and Ontario Association of Certified Engineering Technicians and Technologists (OACETT)

Status

- The college is working toward recognition.
Current status of application: Graduates of the proposed program can seek certification by OACETT without program accreditation. Neither graduate certification nor program accreditation

is required but is desirable. While the college plans to apply for accreditation of this program, the accreditation authority (TAC) has indicated to the college that the new program must run for at least one year before applying for accreditation.
Expected date of recognition: September 2022

Contact Information

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11.2. Appendix II: MCU Program Delivery Information (PDI)

	Semester							
Funded Instructional Setting	1	2	3	4	5	6	7	Total
Classroom instruction	285	225	195	225		180	135	1245
Laboratory/workshop/fieldwork	75	135	150	150		180	120	810
Independent (self-paced)								
One-on-one instruction								
Clinical placement								
Field placement/work placement								
Small group tutorial							105	105
Total	360	360	345	375	0	360	360	2160
	Semester							
Non Funded Instructional Settings	1	2	3	4	5	6	7	Total
Co-op work placement - Mandatory								0
Co-op work placement - Optional					420			420
Degree work placement – Mandatory (shorter than Co-op)								0
Total	0	0	0	0	420	0	0	420
Total	1	2	3	4	5	6		Total
Grand Total	360	360	345	375	420	360	360	2580

11.3. Appendix III: Labour Market Information Details

OVERVIEW OF THE PROFESSION

NOC 2241: ELECTRICAL & ELECTRONICS ENGINEERING TECHNOLOGISTS & TECHNICIANS

Source: Job bank.gc.ca

Electrical and electronics engineering technologists and technicians (NOC 2241)

Electrical and electronics engineering technologists and technicians may work independently or provide technical support and services in the design, development, testing, production and operation of electrical and electronic equipment and systems. They are employed by electrical utilities, communications companies, manufacturers of electrical and electronic equipment, consulting firms, and in governments and a wide range of manufacturing, processing and transportation industries.

SUMMARY OF MAIN DUTIES FOR SOME OCCUPATIONS IN THIS GROUP

- Design, develop and test power equipment and systems, industrial process control systems, telecommunication, broadcast, recording and audiovisual systems, micro-electronic systems and circuits, computers, computer systems and networks, and computer software
- Supervise the building and testing of prototypes according to general instructions and established standards
- Conduct or supervise the installation, commissioning, and operation of electrical and electronic equipment and systems other than aircraft electronics or instruments
- Carry out applied research in fields of electrical and electronic engineering and physics under the direction of scientists or engineers
- Set up and operate specialized and standard test equipment to diagnose, test and analyze the performance of electrical and electronic components, assemblies and systems
- Write specifications, schedules and technical reports and control schedules and budgets.
- Assist in the design, development and testing of electrical and electronic components, equipment, and systems
- Assist in inspection, testing, adjusting and evaluation of incoming electrical, electro-mechanical and electronic components and assemblies to ensure conformance with product specifications and tolerances
- Conduct life tests (burn-ins) on assemblies and record and analyze results
- Assist in building and testing prototypes to specifications
- Carry out a limited range of technical functions in support of research in electrical and electronic engineering and physics
- Install, operate and maintain electrical and electronic equipment and systems
- Calibrate electrical or electronic equipment and instruments according to technical manuals and written instructions

- Collect and compile operational or experimental data and assist in the preparation of estimates, schedules, budgets, specifications and reports.

COMMON JOB TITLES

- communications technologist
- electrical engineering technician
- electrical engineering technologist
- electronics design technologist
- electronics engineering technician
- electronics engineering technologist
- electronics manufacturing technician
- electronics manufacturing technologist
- lighting technologist
- metering technologist
- microwave maintenance technician
- production support technician - electronics manufacturing
- electricity distribution network technologist

TYPICAL EMPLOYERS

- electrical utilities
- communications companies
- manufacturers of electrical and electronic equipment
- consulting firms
- governments
- wide range of manufacturing, processing and transportation industries.

INDUSTRIES EMPLOYING ELECTRICAL ENGINEERING TECHNOLOGISTS & TECHNICIANS

Source: EMSI Analyst

Industry	Occupation Jobs in Industry (2018)	% of Occupation in Industry (2018)	% of Total Jobs in Industry (2018)
Electric power generation, transmission and distribution	462	31.3%	3.9%
Defence services	96	6.5%	3.0%
Building equipment contractors	94	6.4%	1.0%

Industry	Occupation Jobs in Industry (2018)	% of Occupation in Industry (2018)	% of Total Jobs in Industry (2018)
Architectural, engineering and related services	69	4.6%	1.6%
General medical and surgical hospitals	57	3.8%	0.4%

Labour Market

Source: EMSI Analyst

OCCUPATION SUMMARY FOR ELECTRICAL ENGINEERING TECHNOLOGISTS & TECHNICIANS

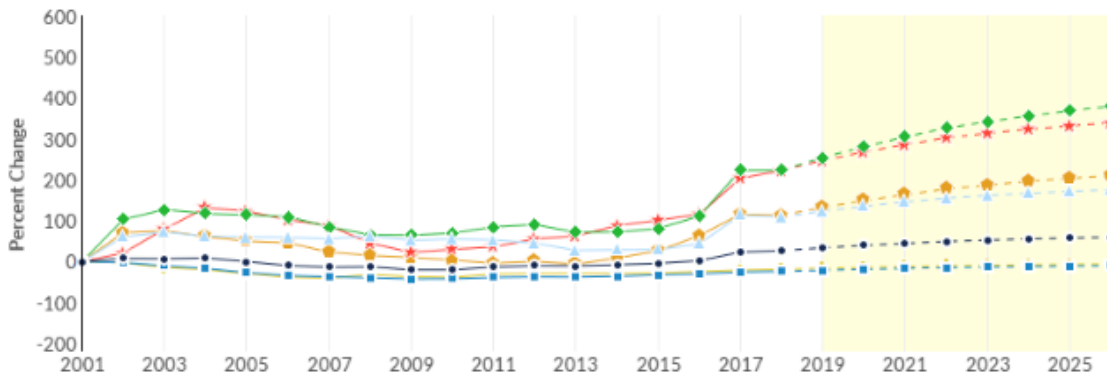
Source: EMSI Analyst

1,556 Jobs (2019) 35% above National average	19.5% % Change (2019-2026) Nation: 12.9%
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Note: Data is for census divisions of Peterborough, Durham, Northumberland, Kawartha Lakes

REGIONAL TRENDS

Jobs per Region



Region	2019 Jobs	2026 Jobs	Change	% Change
● Region	1,556	1,859	303	19.5%
■ Ontario	13,926	15,910	1,984	14.2%
▲ Peterborough	171	211	40	23.4%
◆ Kawartha Lakes	43	58	15	34.9%
+ Durham (in Ontario)	751	844	93	12.4%
★ Simcoe (in Ontario)	519	657	138	26.6%
⬠ Muskoka (in Ontario)	43	58	15	34.9%

REGIONAL BREAKDOWN BY CENSUS DIVISION

Source: EMSI Analyst

Census Division	2026 Jobs
Durham (in Ontario)	844
Peterborough (in Ontario)	218
Simcoe	657
Northumberland (in Ontario)	71

Census Division	2026 Jobs
Kawartha Lakes (in Ontario)	12

EMPLOYMENT POTENTIAL

Source: jobbank.gc.ca

Regional Outlook for Muskoka-Kawarthas: An employment outlook has not been assigned to this occupation in this region due to low levels of employment.

Provincial Outlook for Ontario:

The employment outlook will be **fair** for Electrical and electronics engineering technologists and technicians (NOC 2241) in Ontario for the 2019-2021 period.

The following factors contributed to this outlook:

- Employment growth will lead to several new positions.
- Several positions will become available due to retirements.
- There are a moderate number of unemployed workers with recent experience in this occupation.

Employment in this occupation has improved over the past few years in the province and conditions should remain steady in the short term. In Ontario, electrical and electronics engineering technologists and technicians work in various industries with the largest number in manufacturing. These professionals help support the design and development of electrical systems, equipment and products for several areas of the manufacturing industry. As such, the gradual improvement in Ontario's manufacturing base along with greater industrial activity may raise the demand for these workers to maintain operations in the near term. Further, as the industry shifts towards more advanced manufacturing, companies may have to upgrade and invest in newer systems to meet production needs and stay efficient. This may support work for technologists and technicians to test and install equipment such as automated systems and robotics. Within the manufacturing industry, a large number of these technologists and technicians work in computer and electronic goods production. While employment has been weaker in this industry over the last several years, there may be some opportunities in this field for workers to help develop and monitor equipment and processes for high-value manufacturing operations. In particular, these professionals may see more work as the economy relies greater on electronic goods for data infrastructure, analytics and spatial needs, and medical technologies.

A smaller number of these technologists and technicians work in the professional, scientific and technical services industry to provide services to businesses and the public sector. Overall, there has been a greater demand for consulting services and technical expertise across various industries, especially for higher-value production. This could help support job prospects in this field as companies seek out services that are more specialized for manufacturing, energy, communication, and security operations.

In addition to working at manufacturing or technical companies, some of these technologists and technicians may find opportunities in the construction, utilities, or wholesale trade industries. Over the next few years, moderate levels of construction activity in the province may lead to better job prospects for workers in this industry to install and maintain electrical systems. Similarly, the demand for electronic goods related to electric power generation may grow because of large investments to the province's energy grid and more focus on alternative energy sources. Lastly, since those in wholesale trade mainly work in machinery and equipment distribution, higher demand for these goods because of steady manufacturing activity may create more work for these technologists and technicians to provide technical support for equipment.

In Ontario, certification for electrical and electronics engineering technologists and technicians is voluntary. Certification is offered through the Ontario Association of Certified Engineering Technicians and Technologists (OACETT). Some employers may prefer candidates that have experience in a particular area such as telecommunications, power conversion, circuit board design, medical devices, or industrial equipment. Those with knowledge of applications such as programmable logic controllers (PLC), and design software such as computer-assisted drafting (CAD) may have more favourable job prospects. Workers may be required to travel to various sites, so those with a valid driver's licence may have better employment opportunities. In addition, technologists and technicians with sound communication and soft skills will likely fare better in the labour market.

Here are some key facts about Electrical and electronics engineering technologists and technicians in the Ontario region:

Approximately 12,750 people work in this occupation.

- Electrical and electronics engineering technologists and technicians mainly work in the following sectors:
 - Construction (NAICS 23): 15%
 - Computer and electronic product manufacturing (NAICS 334): 10%
 - Architectural, engineering and design services (NAICS 5413): 8%
 - Utilities (NAICS 22): 10%
 - Wholesale trade (NAICS 41): 6%
- The distribution of full-time and part-time workers in this occupation is:
 - Full-time workers: 93% compared to 79% for all occupations
 - Part-time workers: 7% compared to 21% for all occupations
- 71% of electrical and electronics engineering technologists and technicians work all year, while 29% work only part of the year, compared to 63% and 37% respectively among all occupations. Those who worked only part of the year did so for an average of 32 weeks compared to 31 weeks for all occupations.
- 6% of electrical and electronics engineering technologists and technicians are self-employed compared to an average of 12% for all occupations.

NATIONAL OUTLOOK: 10 YEAR PROJECTION (2019-2028)

Source: Canadian Occupational Projection System (COPS). (February 18, 2020).
<http://occupations.esdc.gc.ca/sppc-cops/occupationsummarydetail.jsp?&tid=93>

Electrical and electronics engineering technologists and technician (2241)

Skill Type: Natural and applied sciences and related occupations
Skill Level: Occupations usually require college or vocational education or apprenticeship training

Employment in 2018:	29,800
Median Age of workers in 2018:	43.7
Estimated Median Age of Retirement in 2016:	61

In order to determine the expected outlook of an occupation, the magnitude of the difference between the projected total numbers of new job seekers and job openings over the whole projection period (2019-2028) is analyzed in conjunction with an assessment of labour market conditions in recent years. The intention is to determine if recent labour market conditions (surplus, balance or shortage) are expected to persist or change over the period 2019-2028. For instance, if the analysis of key labour market indicators suggests that the number of job seekers was insufficient to fill the job openings (a shortage of workers) in an occupational group in recent years, the projections are used to assess if this situation will continue over the projection period or if the occupation will move towards balanced conditions.

The analysis of key labour market indicators such as job vacancies and employment growth as well as the unemployment rate suggests that the number of job seekers was sufficient to fill the job openings in this occupational group over the 2016-2018 period.

For **Electrical and electronics engineering technologists and technician**, over the period 2019-2028, new job openings (arising from expansion demand and replacement demand) are expected to total **14,900**, while **14,000** new job seekers (arising from school leavers, immigration and mobility) are expected to be available to fill them.

As job openings and job seekers are projected to be at relatively similar levels over the 2019-2028 period, the balance between labour supply and demand seen in recent years is expected to continue over the projection period

**Projection of Cumulative
Job Openings and Job Seekers
over the Period of 2017-2028**

	Level	Share
Expansion Demand:	2,900	19%
Retirements:	10,100	68%
Other Replacement Demand:	1,200	8%
Emigration:	700	5%
Projected Job Openings:	14,900	100%

	Level	Share
School Leavers:	10,200	73%
Immigration:	3,100	22%
Other:	700	5%
Projected Job Seekers:	14,000	100%

WAGE ESTIMATES

Community/Area	Wages (\$/hour)		
	Low	Median	High
Canada	19.33	32.21	48.72
Ontario	18.10	29.70	51.00
Hamilton--Niagara Peninsula Region	18.10	29.70	51.00
Kingston - Pembroke Region	18.10	29.70	51.00
Kitchener--Waterloo--Barrie Region	20.00	29.76	45.62
London Region	18.10	29.70	51.00
Muskoka-Kawartha Region	N/A	N/A	N/A
Northeast Region	18.10	29.70	51.00
Northwest Region	N/A	N/A	N/A
Ottawa Region	18.10	29.70	51.00
Stratford--Bruce Peninsula Region	N/A	N/A	N/A
Toronto Region	18.00	28.00	45.02
Windsor-Sarnia Region	18.10	29.70	51.00

11.4. Appendix IV: Employment Postings

On February 19, 2018, **Jobbank.gc.ca** had the following postings:

- 176 jobs listed for Canada
- 22 jobs listed for Ontario:
 - 12 - Toronto Region;
 - 4 – Kitchener--Waterloo--Barrie Region
 - 2 – Hamilton--Niagara Peninsula Region
 - 2 – Northeast Region
 - 1 – Northwest Region
 - 1 – Ottawa Region

Indeed.ca had the following postings:

- 3 postings for Peterborough (within 50 kms) and
- 926 postings for Ontario

SAMPLE POSTING 1

Stations Technician

The MEARIE Group

Clarington, ON

On April 1, 2019, Veridian Connections and Whitby Hydro Electric Corporation merged to form Exlexicon Energy. The company serves more than 162,000 residential and business customers in parts of Durham Region and beyond. If you're looking for an exciting opportunity in our powerful industry, consider joining our growing team of dedicated and enthusiastic employees. We are currently recruiting for the position of:

STATIONS TECHNICIAN

Reporting to the Supervisor, Stations your responsibilities will include:

DUTIES & RESPONSIBILITIES

- Be very familiar with and work in compliance with safe work practices in accordance with IHSA rules and company policies and procedures.
- Be available to assume duties of the Lead Station Technician, if required, during their absence.
- Repair, replace, test, inspect, maintain and commission station assets such as, but not limited to the following: substation transformers, switches, fuses, breakers, switchgear, medium voltage (MV) and low voltage (LV) cables, metering equipment and grounding.
- Use a variety of test equipment associated with each station component being tested such as, but not limited to the following: HV Capacitance & Dissipation Factor Bridge, Turns Ratiometer, Winding Resistance, Insulation Resistance, Contact Resistance, and Ground Resistance.

- Install new protection and control equipment (P&C) and wiring.
- Upgrade P&C relays and wiring within the breaker cubicles.
- Read and interpret electrical AC/DC schematics, AC three line, logic diagrams, single line diagrams and design installation drawings in order to complete projects or tasks.
- Set up and test installed equipment to completion of projects. Purchase required hardware and wiring as required to complete projects or tasks.
- Maintain and repair AC and DC service systems for the substations as required. Repair or replace defective items or equipment.
- Installation of low voltage and high voltage cables and associated terminations.
- Specify and purchase items as needed while remaining compliant with the company's purchasing policy.
- Gather oil samples as required.
- Be familiar with codes and standards (OESC, NETA, etc.) as well remaining compliant with company policies and procedures, including its Construction Verification Program.
- Prepare station outage documentation in order to isolate station components while remaining compliant with the Utility Work Protection Code (UWPC).
- Perform duties of Permit Holder as specified in Utility Work Protection Code (UWPC).
- Investigate, diagnose and report on faults, failures, breakdowns and improper operations of the following:
 - Substation transformers and associated equipment;
 - HV & MV Breakers, Switches, Reclosures (Air, SF6, Oil, Vacuum);
 - HV & MV Lightning Arrestors, Insulators, Fuses;
 - HV & MV Cables;
 - Any other components within the station fence.
- Collect scheduled and periodic substation data and maintain detailed substation loading and equipment information records.
- Ensure substation components and structures, including yard and enclosure are in a secure, safe and clean condition.
- Supervise and direct on-site work of contractors. Included in this direction is the supervision and inspection of work by outside contractors, ensuring their compliance with applicable codes, standards and Elexicon's Construction Verification Program.
- Research for data and specs for various pieces of equipment for upcoming jobs. Source parts and request quotations and prepare purchase requisitions.
- Available to be part of an on-call rotation for after-hours trouble response.
- Other duties as required may be considered part of the responsibilities.

QUALIFICATIONS

- 309A Construction and Maintenance Electrician License is required.
- Journeyperson Substation Electrician Certificate is preferred.
- College diploma in Electrical Engineering at the Technician or Technologist level eligible for O.A.C.E.T.T. accreditation is an asset.
- Able to pass Electrical Theory Qualification Test (minimum 70% score to pass). Candidates must enroll and successfully complete the MEARIE Substation Electrician Apprenticeship Program.
- Must hold and maintain as a minimum, a Class "G" license in good standing. Class "AZ" license is an asset.

SAMPLE POSTING 2

ELECTRICAL ENGINEERING TECHNICIAN

MEDATECH

Collingwood, ON

ELECTRICAL ENGINEERING TECHNICIAN

Key Responsibilities:

Specifications development, design of schematics and wiring diagrams, component specifications and sourcing, and hardware integration to equipment (applications include heavy-duty and hybrid or Electric vehicles as well as renewable energy and energy storage systems)
Hands-on work in a shop environment building, troubleshooting, and testing equipment
Travel to client implementation sites to commission, test and troubleshoot equipment
Working on multiple applications within project constraints, including scope and timing to deliver excellent quality design work according to client

Position Qualification and Requirements:

Diploma in electrical systems engineering & design or equivalent technical degree.

Minimum of 2 years of experience in developing electrical systems design

Good background in two or more of the following areas:

Hardware systems integration

Schematic and wiring diagram design

Component selection and procurement

Hands-on build and implementation

Troubleshooting and testing

Experience with two or more of the following areas:

Hybrid / electric vehicle systems

Panel design

Shop and site testing and troubleshooting

Electric motor operation and control

Active safety systems

Systems engineering

The right candidate would demonstrate:

Excellent communication skills, presentation and collaboration skills

Strong problem solving, analytical, and listening skills

Hands-on experience in troubleshooting and debugging mechanical, electrical & controls systems is a plus

Ability to effectively multi-task and excel in a fast-paced, dynamic and matrix organization

Experience with CAD software (SolidWorks Electrical is a plus)

SAMPLE POSTING 3

Electrical Engineering Technologist Chatham-Kent

Entegrus Powerlines, a progressive company dedicated to providing the highest level of service and a positive work environment, requires an Electrical Engineering Technologist. Reporting to the Senior Manager of Engineering, this position will design, layout and project manage construction projects, as well as liaise with customers to complete new service requests.

Main Responsibilities

Prepare estimates and material list requirements for the construction of overhead and underground electrical facilities;

Prepare contracts and specifications for review and approval by supervisor;

Design electrical and civil works, using approved specifications and standards (including USF standards), where applicable;

Prepare electrical distribution layouts for commercial, industrial and residential customers;

Coordinate work with internal departments, customers, contractors and consultants;

Represent Entegrus at assigned project and construction meetings. Confirm work is done to specifications and is carried out according to all applicable policies and procedures, including Ontario Regulation 22/04;

Collect and record all field and site information for all phases of a project including: surveying, elevations, legal fabric and as built data for GIS;

Research and interpret registry plans, reference plans, plans of survey, draft plans, deeds and easements; and,

Accurately perform underground cable locates as required.

Qualifications

Education: Must have completed a three-year Electrical Technologist Diploma and acquired a CET designation (or be capable of acquiring one within 3 years). Alternatively, a two-year Electrical Technician Diploma in concert with at least 7 years of direct experience designing electrical distribution plant, may be considered.

Experience: A minimum of two years job related experience in the industry is preferred.

Knowledge: Must be proficient with typical office productivity software applications (i.e. MS Office). Proficiency with SPIDACalc and CAD design software (such as ARC GIS or AutoCad) is considered an asset. Must have a working knowledge of contract law, and applicable industry construction standards and practices.

Skills: Must be detail oriented, work well in teams and be able to discuss technical details with confidence. Must keep excellent records and be adept at constructively interacting (both verbal

and written) with other employees. Must have a good understanding of the electrical distribution business and have the technical experience to gauge and appreciate project scope and scale.

Other: Must possess a valid Class G Driver's Licence and an acceptable driver's abstract. Must be willing and able to perform periodic after-hours underground cable locates on a rotational basis.

The successful applicant will be a self-motivated individual with the demonstrated ability to work as a team player and ensure compliance with Occupational Health & Safety Act and Regulations, the IHSA rulebook and company policies and procedures.

This position is a full-time union position based on the IBEW Collective Agreement. Current hours of work are from 7:30 a.m. until 4:00 p.m., Monday-Friday. The successful applicant must be available to assist with after hour emergencies as required.

How To Apply

Closing date for all applications is March 2, 2020 at 4:30 p.m.

All interested candidates should send their resume to:

Michelle Bechard, HR Generalist

Entegrus Powerlines

Michelle.Bechard@Entegrus.com

Entegrus is an equal opportunity employer, committed to fair and accessible employment practices that attract and retain talented employees.

Should you require accommodations during the recruitment process, please contact Human Resources at 519-352-6300 or Michelle.Bechard@Entegrus.com. Applicant information is collected under the authority of the Municipal Freedom of Information and Privacy legislation and will be used strictly for the purpose of candidate selection. We thank all candidates in advance; however, only those candidates selected for an interview will be contacted.

11.5. Appendix V: Competitor Information Details

COMMUNITY COLLEGE/INSTITUTE INFORMATION

COLLEGE	PROGRAM TITLE	LENGTH, TYPE (DIPLOMA, CERT., POST)	DELIVERY METHOD(S)	OTHER (UNIQUE TO THE PROGRAM)
Algonquin	Electrical Engineering Technician	Diploma	Optional co-op	BYOD This program is offered in the LEED®Platinum Certified Algonquin Centre for Construction Excellence (ACCE) . Robotics is mentioned, but not AI specifically. No OACETT info.
Algonquin	Electrical Engineering Technology	Advanced Diploma	Program offers two cooperative education (Co-op) Work Term options. Qualified students with a minimum GPA of 2.7 have the opportunity to apply for paid co-op employment to gain valuable work experience and networks within industry.	BYOD This program is offered in the LEED®Platinum Certified Algonquin Centre for Construction Excellence (ACCE) . Robotics is mentioned, but not AI specifically. No OACETT info.
Boreal	Pratique de l'électricité	Certificate		No AI, OACETT or LEEDS information
Boreal	Techniques du génie électrique	Diploma		
Boreal	Technologie du Génie Électrique	Advanced Diploma		
Cambrian	Electrical Engineering Technician - Industrial	Diploma	Optional co-op	No AI, OACETT or LEEDS information.

Cambrian	Electrical Engineering Technology	Advanced Diploma	Optional co-op	No AI, OACETT or LEEDS information.
Centennial	Electrical Engineering Technician	Diploma		No AI, OACETT or LEED information.
Centennial	Electrical Engineering Technology	Advanced Diploma		Intelligent building systems mentioned, but no AI, OACETT or LEED information.
Centennial	Electrician: Construction and Maintenance - Electrical Engineering Technician	Diploma	Co-op included	No AI, OACETT or LEED information.
Conestoga	Electrical Engineering Technician	Diploma		The Ontario Association of Certified Engineering Technicians and Technologists (OACETT) conditionally recognizes this program as meeting all the academic requirements for certification in the Certified Technician (C.Tech.) category and the Certified Engineering Technologist (CET) category, respectively. No AI or LEED information.
Conestoga	Electrical Engineering Technology	Advanced Diploma	Optional Co-op	
Confederation	Electrical Engineering Technology	Advanced Diploma		Recognized by the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) Industrial robotics is mentioned, but no AI or LEED information
Durham	Electrical Engineering Technician	Diploma		No AI, OACETT or LEED information
Fanshawe	Electrical Engineering Technician	Diploma		No AI, OACETT or LEED information
Fanshawe	Electrical Engineering Technology	Advanced Diploma	Optional Co-op	No AI, OACETT or LEED information
Georgian	Electrical Engineering Technician	Diploma	2 co-op work terms. This program is accredited by the Canadian	Includes Intro to Robotics course, but no mention of AI. No OACETT or LEED information

			Association for Co-operative Education (CAFCE).	
Georgian	Electrical Engineering Technology	Advanced Diploma	3 co-op work terms. This program is accredited by the Canadian Association for Co-operative Education (CAFCE).	Includes Intro & Advanced Robotics courses, but no mention of AI No LEED information. This program is accredited by Technology Accreditation Canada (TAC) ff
Georgian	Bachelor of Engineering (Electrical) with Electrical Engineering Technology	Degree (Lakehead) and Diploma in 4 years		
Humber	Electrical Engineering Technician - Control Systems	Diploma		No AI, OACETT or LEED information
Humber	Electrical Engineering Technology - Control Systems	Advanced Diploma	Optional co-op	Graduates may apply to become members of the Ontario Association of Certified Engineering Technicians and Technologists (OACETT). No AI or LEED information
La Cite	Techniques du genie electronique	Diploma		The graduate is eligible for the Ontario Association of Certified Engineering Technicians and Technologists. No AI or LEED information
La Cite	Technologie du genie electronique	Advanced Diploma		No AI, OACETT or LEED information
Loyalist	Electrical Techniques	Certificate		No AI, OACETT or LEED information
Loyalist	Electrical Engineering Technician - Industrial	Diploma	1 co-op work term	Robotics and alternative energy are mentioned. No AI, OACETT or LEED information
Mohawk	Electrical Engineering Technician - Power	Diploma	Co-op for Fall start only	Graduates are able to register as associate members of the Ontario Association of Certified Engineering Technicians

				and Technologists (OACETT). No AI, or LEED information
Mohawk	Electrical Engineering Technology	Advanced Diploma	3 academic years (periods of 8 months), plus co-op (1 year)	Graduates may be eligible to be registered as associate members of The Ontario Association of Certified Engineering Technicians and Technologists (OACETT). No AI, or LEED information
Niagara	Electrical Engineering Technician	Diploma		Graduates with relevant experience can apply for the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) certification. Robotics mentioned, but no AI or LEED information.
Niagara	Electrical Engineering Technology	Advanced Diploma	3 Co-op terms	
Niagara	Electronics Engineering Technician	Diploma		Graduates with relevant experience can apply for the Ontario Association of Certified Engineering Technicians & Technologists (OACETT) certification. No AI or LEED information
Niagara	Electronics Engineering Technology	Advanced Diploma	3 Co-op terms	Graduates with relevant experience can apply for the Ontario Association of Certified Engineering Technicians & Technologists (OACETT) certification. Robotics mentioned, but no AI or LEED information.
Northern	Electrical Engineering Technician	Diploma		BYOD Graduates from our Technician or Technology programs may obtain certification through the Ontario Association of Certified Engineering Technicians and Technologists (OACETT). No AI or LEED information
Northern	Electrical Engineering Technology	Advanced Diploma		
Sault	Electrical Engineering Technician – Process	Diploma		Technician and technology graduates who have had two years of acceptable work experience are eligible for certification by the Ontario

	Automation and Trades			Association of Certified Engineering Technicians and Technologists (OACETT) subject to fees and other requirements as established by OACETT.
Sault	Electrical Engineering Technician - Process Automation	Diploma		Technician and technology graduates who have had two years of acceptable work experience are eligible for certification by the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) subject to fees and other requirements as established by OACETT. Robotics is mentioned, but no AI, or LEED information
Sault	Electrical Engineering Technology - Process Automation	Advanced Diploma		Technician and technology graduates who have had two years of acceptable work experience are eligible for certification by the Ontario Association of Certified Engineering Technicians and Technologists (OACETT) subject to fees and other requirements as established by OACETT. Robotics is mentioned, but no AI, or LEED information
Sheridan	Electrical Techniques	Certificate		No AI, OACETT or LEED information
Sheridan	Electrical Engineering Technician	Diploma		Graduates of this program with work experience can pursue additional certification through the Ontario Association of Certified Engineering Technicians and Technologists (OACETT). Course in Alternate Energy, but No AI, or LEED information
Sheridan	Electronics Engineering Technician	Diploma		Graduates have completed all the academic requirements for professional certification with the Ontario Association of Certified Engineering Technicians and
Sheridan	Electronics Engineering Technology	Advanced Diploma	Optional co-op	

				Technologists (OACETT). Additional requirements for certification exist and are established by OACETT. No AI or LEED information
St. Clair	Electrical Engineering Technician	Diploma	Co-op placement required	Students are eligible for associate membership and possible certification through Ontario Association of Certified Engineering Technicians and Technologists (OACETT) as Certified Technicians (C.Tech.) No AI or LEED information
St. Lawrence	Electrical Engineering Technician	Diploma	Optional Co-op	No AI, OACETT or LEED information

PROVINCIAL PRIVATE COLLEGES & OTHER EDUCATIONAL OPPORTUNITIES

INSTITUTION	PROGRAM TITLE	LENGTH, TYPE (DIPLOMA, CERT., POST)	DELIVERY METHOD(S)	OTHER (UNIQUE TO THE PROGRAM)
Pre-Apprenticeship Training Institute Toronto	Construction and Maintenance Electrician Pre-Apprenticeship	Certificate 24 weeks (360 hours)		No AI, OACETT or LEED information
Stanford International College of Business and Technology Toronto	Electrician Construction & Maintenance	Pre-qualification 8 weeks		No AI, OACETT or LEED information
	Industrial Electrician – Pre Qualification Training	Pre-qualification 10 weeks		No AI, OACETT or LEED information
	Industrial Electrician (PLC & Robotics)	Diploma 50 weeks		Robotics mentioned, but no AI, OACETT, or LEEDs information

11.6. Appendix VI: Letters of Support



February 16, 2021

**Letter of Support
Electrical Engineering Technology Ontario College Diploma, Fall 2021**

Dear Ministry of Colleges and Universities,

It is my pleasure to offer this letter of support for the proposed Electrical Engineering Technology Ontario College Advanced Diploma, put forward by the School of Trades & Technology, of Sir Sandford Fleming College (Fleming).

Since 1912 Siemens Canada has stood for engineering excellence, innovation, quality, and reliability. The company is active across Canada, focusing on the areas of power distribution, intelligent infrastructure for buildings and distributed energy systems, and automation and digitalization in the process and manufacturing industries. Through its related company Siemens Energy, and its affiliate Siemens Mobility, Siemens is shaping the energy systems of today and tomorrow as well as helping shape Canada's passenger rail services. The company has approximately 2,500 employees from coast-to-coast and 27 office and production facilities across Canada.

Siemens Canada Ltd.'s Siemens Milltronics manufactures and supplies high precision instrumentation to a broad range of industries. The location in Peterborough, Ontario employs approximately 280 people, of which one quarter are engineers and technologists.

For many years, Siemens Canada has been a strong supporter of Fleming College. Some of our employees are graduates of the College's programs. As well, we have supported the School of Trades & Technology through monetary and equipment donations. These donations were provided as an investment in the local region, and in the quality of students entering the workforce post-graduation.

The addition of the Electrical Engineering Technology Ontario College Advanced Diploma would provide further opportunity for Siemens to attract Electrical Engineering talent from the local community. The attraction of talent is a key focus area for our organization, and Electrical Engineering is a field that our Peterborough location is particularly interested as it is a competence that underpins the need of bridging automation and digitalization.

The world of industry is going through an exciting evolution where systems and data interact side-by-side with the physical world. As we continue our journey towards digitalization, we recognize the importance of bridging the skills gap in our existing workforce. Much of the curriculum proposed by Fleming College could help us answer the needs that we have. For example, but not limited to, the below:

Mechatronics, Industrial Robotics, Advanced PLC/SCADA, Digital Electronics, Physics for Instrumentation, Process Control, Problem Solving, AI & IOT.

These are all skills that would benefit and enhance our business. They would form a solid foundation upon which Siemens would build.

It is my hope that this program is approved and that as we go forward Siemens can continue to support the College whether it be through consultation, donation, collaboration, or support for students.

Please do not hesitate to reach out to me if you have questions.

Kind Regards

Faisal Kazi
President and Chief Executive Officer
Siemens Canada Limited

Siemens Canada Limited / Limitée

Faisal Kazi
President and Chief Executive Officer
1577 North Service Road East
Oakville, ON L6H 0H6 Canada
Telephone (905) 465-8100
Telephone [Assistant] (905) 465-8101



Gerry Gough
First Line Manager, Control Maintenance

Darlington Nuclear Generating
Station

905-242-2971

gerry.gough@opg.com

Attention: Pam Stoneham
Dean, School of Trades & Technology
Sir Sandford Fleming College
599 Brealey Drive
Peterborough, ON
K9J 7B1

I am writing to you in support of your new program, Electrical Engineering Technology Ontario College Advanced Diploma in the School of Trades & Technology at Sir Sandford Fleming College that is proposed to start in the Fall of 2021.

This program is near to my heart as I graduated from Fleming in 1987 as an Electrical Engineering Technologist and have enjoyed a 33 year career in the Control Maintenance Department at OPG. The education I received at Fleming not only taught me the technical aspects of my job but also gave me leadership skills to be a Supervisor for over 20 years.

A Graduate of this program would possess many skills that Ontario Power Generation would be looking for in a Control Technician at one of our Nuclear Stations. The program description states that a Graduate will be exposed to a range of electrical engineering functions such as troubleshooting, commissioning, installation and repair of electrical circuits, equipment and systems. These skills are used every day in our Control Maintenance Department. Upon review of the courses listed for Semesters 1 through 6, it is clear that a Graduate will focus on electrical but will have some knowledge of process control and digital electronics which is a solid base for a Control Technician as they perform work in all three disciplines.

Please feel free to contact me for further information. I am available to discuss curriculum, program development or answer any questions on a day in the life of a Control Technician at OPG Nuclear. Thank you for this opportunity.

Regards,

Gerry Gough
First Line Manager, Control Maintenance
Darlington NGS Refurbishment

KLASSENGINEERING Inc.

537 Homewood Ave.
Peterborough, ON
K9H 2N4

(705) 743-1076
FAX (705) 743-2307

Dec 9, 2020

Pam Stoneham
Dean, School of Trades & Technology
Sir Sandford Fleming College
599 Brealey Drive
Peterborough, ON
K9J 7B1

cc. Wendy Johnson

via email wendy.johnson@flemingcollege.ca

Dear Ms. Stoneham:

Subject: Electrical Engineering Technology Ontario College Advanced Diploma

It has been my honour and privilege to participate in the Program Advisory Committee for the Electrical Engineering Technology Advanced Diploma (ETN). This has been my second year with the PAC. My relationship with the college goes back many years, particularly in organizing and presenting PEO and IEEE chapter symposiums at the college.

I am presently the owner of a small engineering firm providing Electrical Engineering Services to Canadian and international industrial concerns. My interests are specifically in the areas of Adjustable Speed Drives, Programmable Controllers, and machine safety. I work primarily with companies producing paper or plastic film for publishing, containers, construction, and specialty products including solar panels and health care.

My clients are always in search of qualified maintenance and service technologists, technicians, and engineers qualified to install and maintain electrical systems. The ETN curriculum covers the equipment and skills I am concerned with every day.

I look forward to continuing with the PAC for this program. Please contact me via email at cklassen@klassen.on.ca with any questions.

Regards,



Clarence Klassen, P.Eng., FEC
KlassENGINEERING

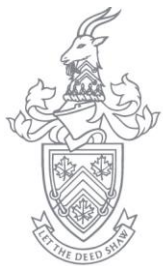
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11.7. Appendix VII: Incremental Costing Summary Details

Program Costing						
Program Name	Electrical Engineering Technology		Date/Version			
Credential	ntario College Advanced Diploma		School Dean		Trades & Technology-Pam Stoneham	
Gross Domestic Tuition (per semester)	\$ 1,290.38		Net Domestic Tuition (less financial aid 8%)		\$ 1,187.15	
Gross International Tuition (per semester)	\$ 7,635.00		Net International Tuition		\$ 5,835.00	
WFU (WtxFu)	4.42		Base Operating Grant (BOG) Allocation per WFU (@ corridor mid point)		\$ 4,500.00	
WFU per semester	0.736666667		Small Northern Rural (SNR) Grant Enhancement		\$ 272.00	
Domestic Enrolment Projections						
Description	FY01	FY02	FY03	FY04	FY05	
Sem1	40	40	40	40	40	
Sem 2	37	37	37	37	37	
Sem 3	0	34	34	34	34	
Sem 4		31	31	31	31	
Sem 5		0	29	29	29	
Sem 6		0	27	27	27	
Total enrolment	77	142	198	198	198	
Co-op if applicable						
International Enrolment Projections						
Description	FY01	FY02	FY03	FY04	FY05	
Sem1	0	0	0	0	0	
Sem 2	0	0	0	0	0	
Sem 3	0	0	0	0	0	
Sem 4		0	0	0	0	
Sem 5		0	0	0	0	
Sem 6		0	0	0	0	
Total enrolment	0	0	0	0	0	
Co-op if applicable						
Incremental Costing						
Revenues/Source of Funding						
Description	FY01	FY02	FY03	FY04	FY05	Total
Domestic Tuition	91,410.52	168,575.24	235,055.62	235,055.62	235,055.62	\$ 965,152.62
International Tuition	-	-	-	-	-	\$ -
MTCU International clawback	-	-	-	-	-	\$ -
Other (list)						
Co-op funding	-	-	-	-	-	\$ -
	\$ 91,410.52	\$ 168,575.24	\$ 235,055.62	\$ 235,055.62	\$ 235,055.62	\$ 965,152.62

Program Delivery Costing						
Description	FY01	FY02	FY03	FY04	FY05	Total
Salaries & Benefits						\$ -
FT Faculty	166,099.73	317,099.48	470,844.68	470,844.68	470,844.68	\$ 1,895,733.23
PT Faculty	57,664.50	71,095.50	75,757.50	109,945.50	109,945.50	\$ 424,408.50
Program Co-ordinator	24,638.00	24,638.00	24,638.00	24,638.00	24,638.00	\$ 123,190.00
FT Technician						
PT Technician	11,957.40	11,957.40	11,957.40	11,957.40	11,957.40	\$ 59,787.00
other direct staffing						
						\$ -
Course Supplies/Instructional Cost	5,000.00	10,000.00	15,000.00	15,000.00	15,000.00	\$ 60,000.00
Computer Software & Maintenance	641.14	951.37	13,758.70	13,758.70	13,758.70	\$ 42,868.62
Smalls Items & Equipment	2,500.00	5,000.00	7,500.00	7,500.00	7,500.00	\$ 30,000.00
Faculty Travel						\$ -
Equipment Rental and/or Maintenance						\$ -
Other-Office Supplies, Hospitality,Duplicating, etc	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	\$ 5,000.00
add rows above this line as needed						
Program Delivery Costing	\$ 269,500.77	\$ 441,741.75	\$ 620,456.28	\$ 654,644.28	\$ 654,644.28	\$ 2,640,987.34
Incremental Academic Overhead - program supports not directly related to delivery						
Description	FY01	FY02	FY03	FY04	FY05	Total
Faculty support costs						\$ -
Travel and Professional Development		500.00	500.00	500.00	500.00	\$ 2,000.00
Curriculum Quality supports - Review/Renewal			5,000.00	10,000.00	15,000.00	\$ 30,000.00
Other (list and add rows as needed)						\$ -
						\$ -
	\$ -	\$ 500.00	\$ 5,500.00	\$ 10,500.00	\$ 15,500.00	\$ 32,000.00
Program Development/Investment						
Description	FY00	FY01	FY02	FY03	FY04	FY05
Development	10,825.00	42,981.00	33,748.00			
Equipment						
Consulting costs						
Capital expenditures	31,023.00	168,041.25	-	-	-	-
Other (list)						
add rows above this line as needed						
Total program development	\$ 41,848.00	\$ 211,022.25	\$ 33,748.00	\$ -	\$ -	\$ -
Incremental Costing Summary						
	FY00	FY01	FY02	FY03	FY04	FY05
Incremental Revenues		\$ 91,410.52	\$ 168,575.24	\$ 235,055.62	\$ 235,055.62	\$ 235,055.62
Incremental Costs		\$ 269,500.77	\$ 442,241.75	\$ 625,956.28	\$ 665,144.28	\$ 670,144.28
Net Investment	\$ 41,848.00	\$ 211,022.25	\$ 33,748.00	\$ -	\$ -	\$ -
NET INCOME/CASH	-\$ 41,848.00	-\$ 389,112.50	-\$ 307,414.50	-\$ 390,900.65	-\$ 430,088.65	-\$ 435,088.65
Contribution to Overhead						
Non-Incremental Program Distributions						
Description	FY01	FY02	FY03	FY04	FY05	Total
MTCU Grant	255,255.00	470,730.00	656,370.00	656,370.00	656,370.00	\$ 2,695,095.00
Dean & Other academic staffing supports	2,193.85	4,045.81	5,641.33	5,641.33	5,641.33	\$ 23,163.66
program revenue	346,665.52	639,305.24	891,425.62	891,425.62	891,425.62	3,660,247.62
program expense	480,523.02	475,989.75	625,956.28	665,144.28	670,144.28	2,917,757.59
Net Contribution to Overhead	-\$ 133,857.50	\$ 163,315.50	\$ 265,469.35	\$ 226,281.35	\$ 221,281.35	\$ 742,490.03
% CTO	-39%	26%	30%	25%	25%	
College Overhead Target	114,399.62	210,970.73	294,170.45	294,170.45	294,170.45	318,500.37



Board of Governors

Briefing Note



FLEMING

Topic: Artificial Intelligence (AI) Ontario Postgraduate Certificate Program
Report To: Public Board Meeting
Meeting Date: May 26, 2021
Prepared By: Musabbir Chowdhury, Dean School of Business and Information Technology

Recommendation

That the Board of Governors of Sir Sandford Fleming College approve the proposed new postgraduate certificate program, Artificial Intelligence.

Overview

Artificial Intelligence (AI) is one of the most exciting areas in computer science and engineering. AI and Machine Learning (ML) address the challenge of creating machines having the ability to learn, adapt and exhibit intelligence.

In this program student will have a chance to learn different aspects of machine learning such as, Data analysis, Social media analytics, Natural language processing and mainly Machine vision.

- Through Data analysis, social Media analytics and Neural Network: they can develop a software which can learn to recognize object in images and a creating tool for making decision and prediction. Student will learn how to prepare and how to handle, clean, and prepare data so it can be used with the assistance of machine learning algorithms predicting future data, or new behaviours. The program provides the students with the knowledge on how to identify problems that could be solved using Machine Learning, selecting the appropriate model, and then tuning the model through cross-validation.
- Through Natural Language processing they can develop a machine to understand human language and respond in a way a human audience can understand, this will help them to work on smart environment and robotic area and chatbot.
- With Deep learning, Machine vision and image processing they can develop a network which is closer to how we think as human and it paves the way toward gaming and virtual reality design which is another program offered by Fleming College.
- The program also focuses on teaching the students the principles of project managements wherever it is applicable to ML teams.

The faculty is planning to engage the students in series of innovative industry driven projects and emphasize the hands-on component in the program. This approach should increase the program impact on the targeted industries. This approach should be able to introduce innovation and entrepreneurship to the students in very relevant way. The approach should also drive innovation in the community the program is serving. Please see the attached business case for details.

Alignment with Fleming College's Strategic Direction and the Strategic Mandate Agreement

The program is in alignment with the College's strategic initiative of supporting employers with graduates skilled with talents required to drive the labour market. AI is one of the fastest growing areas and the skills the program offers are very much demanded by employers from all sectors.

The hands-on approach and the emphasis on utilizing industry and community supported project allows the program to create perfect environment to expand community partnerships. It also opens doors for multiple pathways for graduates of this program to further their education.

AI research activities is one of the highly funded activities, this program will open opportunities to expand Fleming College Applied Research and support community innovation.

Risks and Considerations

☒ External Environment ☐ Internal Environment ☐ Financial ☐ Human Resources
☐ Information Technology ☐ Legal ☐ Operational ☐ Strategic ☐ N/A

Check any of the applicable risks above by double clicking on the box and selecting Checked from the default value. If there no applicable risks check N/A.

Include any additional considerations below:

Supporting Documentation

Include the file names of any supporting documentation below:

- AI Business Case – March 24 2021

Artificial Intelligence

Date:	March 24, 2021		
Board of Governors:	<input checked="" type="checkbox"/> Decision		
Proposed By:	Musabbir Chowdhury, Dean		
School of Study:	School of Business and Information Technology		
Proposed Launch Date:	Winter 2022		
Offering:	<input checked="" type="checkbox"/> Full-Time <input type="checkbox"/> Part-Time		
Student Enrolment Target:	YEAR 1 = 20	YEAR 3 = 60	YEAR 5 = 90
New Faculty Resources:	1 Fulltime hire Fall 2022		
Semesters / Hours:	2 Semesters / 560 Hours		
Applied Learning Method(s):	<input checked="" type="checkbox"/> Applied Project <input type="checkbox"/> Co-op/Placement <input type="checkbox"/> Other		
First Graduating Class:	Class of 2022		
Credential Ontario College (OC):	<input type="checkbox"/> OC Certificate <input checked="" type="checkbox"/> OC Graduate Certificate <input type="checkbox"/> OC Diploma <input type="checkbox"/> Certificate (Local Board Approved) <input type="checkbox"/> OC Advanced Diploma		
Program Mapping:	Appendix I: Validation Documents		
Career Opportunities:	Application Programmer, Computer Programmer, Operating Systems Programmer, Programmer Analyst, Scientific Programmer, Software Programmer, Systems Programmer, Software Design Engineer, Application Architect, Embedded Software Engineer, Computer Software Engineer, Software Design Verification Engineer, Software Architect, Technical Architect – Software, Telecommunications Software Engineer, Software Designer		
Proposed Tuition (per Semester):	\$1500.00		
Program Start-up Cost:	\$102,342.62		
Incremental Costs:	YEAR 1 = \$130,662.74 YEAR 3 = \$306,407.66 YEAR 5 = \$350,217.66		
Net Income:	YEAR 1 = -152,365.36 YEAR 3 = \$152,772.34 YEAR 5 = \$324,662.34		
OCQAS Program Validation	<input checked="" type="checkbox"/> Approved APS Number: FLEM04009 Validation Date: Feb. 23, 2021		
MCU Code(s):	70502		
NOC Code(s):	2173: Software Engineers and Designers; 2174: Computer Programmers and Interactive Media Developers		
CIP Code(s):	11.0102: Artificial Intelligence		

Endorsed

- ☐ Academic Council ☒ Program Advisory or Reference Group ☐ Senior Management Team
☐ Strategic Enrolment Management ☐ Other: _____

Acknowledgements

Thank you to the members of our Artificial Intelligence Program Development Team for their dedication and excellent work in engaging the college community in consultations, research, writing, and responding to feedback. Over the course of our planning and approval process this team involved Musabbir Chowdhury, Haider Al-Saidi, Parisa Poulazadeh, Jennifer Ramsdale, Carmen Gelette, Jason Dennison and Kris McBride. Over the course of our planning and approval process this team involved the following industry representatives: Hojjat Salehinejad, Data Scientist from St. Michael's Hospital; Mehdi Semsarzadeh, Senior Software Developer from AMD; and Farshid Faal, Senior Data Scientist at MindBridge AI.

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1. Executive Summary

The School of Business and Information Technology is proposing a two-semester Artificial Intelligence (AI) Ontario College Graduate Certificate program to replace the previously approved three-semester Artificial Intelligence Virtual Reality (AIVR) Ontario College Graduate Certificate program. This proposed change is essential to the School of Business and Information Technology's strategy to offer a suite of two-semester graduate certificates to attract International students thereby increasing overall School enrolment.

By removing the virtual reality training in the original three-semester AIVR program, the new AI program can be offered in two semesters which is far more attractive to the International student market where International students can study for four semesters by combining two two-semester programs. In addition to attracting International students, the program will target working individuals and university graduates, as well as, graduates of Fleming Computer Engineering Technician or Technology programs. The inclusion of deep learning and machine vision imaging and processing in the curriculum makes this program unique in Ontario and is expected to attract more students from these additional student markets.

The new AI graduate certificate will be delivered in a hybrid format with the ability to be offered fully online. This new program will allow students to focus and study AI, machine learning and deep learning in much more depth than the previous AIVR program. The curriculum will emphasize modern software design and artificial intelligence frameworks, machine learning, and big data fundamentals. The program will also include an applied research and learning experience in the second semester capstone project course where students will learn how to design and create software by embedding artificial intelligence in applied projects to meet industry needs.

The artificial intelligence labour market has been growing steadily in Canada since 2019, and market forecasts indicate that the AI space will continue to grow globally by over 300% by 2024¹. AI and machine learning have the capacity to impact multiple industries from manufacturing to communications to law and education and health. These future jobs are needed for firms to remain competitive. With the combination of soft skill development, in-depth knowledge and authentic experiences gained throughout this graduate certificate, students will be well equipped to fill the labour gap in these industry sectors.

The demonstrated need for graduates of this program in the labour market, and the inclusion of an industry-partnered applied capstone project in the curriculum supports the first two commitments of the Fleming College Strategic Plan 2019 - 2024 of focusing on the needs of students and employers in the labour market, and being true partners in our communities. In addition, the program also aligns with the Fleming College Strategic Plan commitment to embrace technology and digital tools. Artificial intelligence and machine learning are at the forefront of the development of new technologies and applications.

The Artificial Intelligence program is expected to show a positive net income in years two through five, netting a maximum of \$324,662.34 in year five. In addition, the contribution to overhead increases steadily from 35% in year two to 54% in year five. The program will also positively influence SMA3 in that it will indirectly improve the enrolment of programs identified as areas of strength in SMA3 when International student choose to “club” two two-semester graduate programs to allow for the longest Post Graduate Work Permit. The program also boasts higher than average median wages in Ontario of \$38.46 per hour supporting the Graduate Earnings performance metric, and the demonstrated need for graduates in the labour market will support the Graduate Employment Rate in a related Field performance metrics. Lastly, the program will also include experiential learning in the form of a capstone course in semester two supporting the Experiential Learning performance metric.

2. Program Description

The Artificial Intelligence program is a two-semester Ontario College Graduate Certificate credential proposed by the School of Business and Information Technology. Throughout this program, students will learn how to design and create software by embedding artificial intelligence into applications that meet industry needs. Modern software design and artificial intelligence frameworks, machine learning, and big data fundamentals will be emphasized.

The new AI graduate certificate will be delivered in a hybrid format with online lectures and face-to-face computer labs where students will apply their knowledge and skills to applied projects. The program will also include applied research and applied learning experiences throughout the curriculum culminating in a second semester capstone project course. Students will learn to obtain and analyze data sets in deep learning and machine learning applications, work collaboratively using principles of project management, and design and create software to fulfill industry project requirements. All work completed in the program will be in accordance with relevant legal statutes and ethical codes. In addition to gaining technical knowledge, students will expand their skills in project and time management, collaboration, independent initiative, and communication.

The admission requirements of the program will be an Ontario College Diploma, Ontario College Advanced Diploma, degree or equivalent with a focus in computer studies, technology, engineering, analytics, mathematics, or statistics, OR an acceptable combination of related work experience and post-secondary education. Proof of English language proficiency will also be required.

Table 1: Artificial Intelligence Ontario College Graduate Certificate (mapped to MCU code # 70502)				
Semester	Course Code	Course Name	Hours	Delivery
1	NEW 1	Introduction to Data Analysis	60	2 hr lec (online), 2 hr lab
1	NEW 2	Applied Machine Learning	60	2 hr lec (online), 2 hr lab
1	NEW 3	Linear Algebra and statistic for Machine Learning	60	2 hr lec (online), 2 hr lab
1	NEW 4	Cloud Computing	60	1 hr lec (online), 2 hr sem
1	NEW 5	Technical Project Management	21	1 hr lec (online), 2 hr sem (front seven)
1	NEW 6	Data Governance and Ethics	14	1 hr lec (online), 1 hr sem (back seven)
Total Semester 1 Hours: 275 hours				
2	NEW 7	Machine Vision and Image Processing	60	2 hr lec (online), 2 hr lab
2	NEW 8	Deep Learning	60	2 hr lec (online), 2 hr lab
2	NEW 9	Social Media Analytics	60	2 hr lec (online), 2 hr lab
2	NEW 10	Natural Language Processing	60	2 hr lec (online), 2 hr lab
2	NEW 11	AI and ML Capstone Project	45	3 hr lab
Total Semester 2 Hours: 285 hours				
Total Program Hours: 560 hours				

More detailed curriculum information may be found in Appendix I: Validation Documents and Appendix II: MCU Program Delivery Information (PDI).

3. Fleming College Strategic Alignment

3.1. Alignment with Fleming College Strategic Plan

This program aligns with the first commitment of the Fleming College Strategic Plan 2019 - 2024 in that it is focused on the needs of students and employers in the labour market. Graduates with a highly technical set of skills in AI and machine learning are sought after in the labour market. Specifically, regional employers are searching for graduates as demonstrated in the labour market information in Subsection 4.3 Labour Market Analysis.

This program also aligns with the second commitment of the Fleming College Strategic Plan in being true partners in our communities. Students in this program will work with industry partners on a capstone project that will provide technical support and solutions to our community partners. In addition, faculty and students will also lead and participate in applied research opportunities with community partners.

Lastly, this program aligns with the Fleming College Strategic Plan commitment to embrace technology and digital tools. Artificial intelligence and machine learning are at the forefront of new technologies and software applications. Students will utilize

leading technology, tools, and hardware throughout the program and in the capstone project course where students will work with industry partners. This program will allow Fleming to have in-house capabilities of creating AI and machine learning programming. The investment in hardware and software will benefit students, faculty and the college as a whole.

3.2. Alignment with Fleming College Academic Plan

This program aligns with all six priorities in the 2020-2021 Addendum of the Fleming College Jobs First Academic Plan 2019-2024. First, the labour market analysis shows that graduates with training in AI and machine learning are in need and thus the program is responding to the needs of the labour market. Secondly, the program is designed to ensure that graduates will have the skills and experiences they need by developing industry endorsed curriculum and providing an opportunity for students to complete a capstone project in collaboration with industry partners. Third, the program is relevant as AI and machine learning is a disruptive technology and predicted to impact many if not all industries now and in the future. Fourthly, the program is being designed as part of a suite of two-semester graduate certificates designed to increase sustainability through strategic enrolment management. Lastly, the program will provide a top-quality education as well as revitalize and engage faculty for a modern education through the efforts of our existing fulltime faculty that are taking lead on the development of the AI program curriculum. Faculty are currently conducting applied research in AI and machine learning and will ensure that the curriculum is top-quality and current for students, and through example, will inspire more faculty to conduct applied research and/or include new research into the curriculum of the program.

3.3. Alignment with Fleming College Business Plan

This program aligns with the 20-21 Business Plan Objective 1.1.2 to develop and implement a Strategic Enrolment Management Plan that maintains our commitment to access to education and ensures the College enhances student recruitment, retention and creates a welcoming environment for all. This top-quality in-demand program will be attractive to both domestic and International students thereby ensuring sustainability. Specifically, this graduate certificate will be part of the School of Business and Information Technology's suite of two-semester graduate certificates designed to serve our local community as well as attract International students. This two-semester graduate certificate will also offer pathways for Fleming diploma and advanced diploma graduates.

This program also aligns with the 20-21 Business Plan Objective 2.3.2 by increasing the applied research richness of programs in the School of Business and Information Technology as this program will include the industry supported applied research of

our fulltime faculty and a capstone project course to give students a rich experience in current research.

3.4. Alignment with Other Fleming College Plans

There are three additional priority areas that the new AI program will support. First, this program aligns well with Fleming's Internationalization plan in that the program is designed to attract International students. Two semester graduate programs are far more attractive to the International student market. International students can study for four semesters by combining two two-semester programs in order to "club" programs and allow for the longest Post Graduate Work Permit.

Secondly, the program will include opportunities for faculty and students to participate in Applied Research. Fulltime faculty designing the program curriculum are currently working on three applied research projects:

- Predictive Water Network Analytics (assisting with data standardization, design and applying Convolutional Neural Network algorithms for prediction);
- Automated Detection of Acute Bowel Ischemia on Abdominal Computed Tomography Using Machine Learning (CCSIF grant application with Unity Health Toronto);
- Applying AI and deep learning on Game applications (research proposal in collaboration with Advanced Micro Devices (AMD) Inc.).

There will be opportunities for students and faculty to learn or participate in this and future research.

Lastly, the program aligns with the 2019-2022 Fleming College Sustainability Plan in that the program supports green curriculum by supporting goal 3.6 "Launch new programs supporting sustainability". The AI program includes a project management course that will teach students the principles of lean project management, maximizing value and minimizing waste. This knowledge will be applied to all work conducted to ensure minimal waste is generated.

4. Ministry of Colleges and Universities Funding Approval Requirements

4.1. Alignment with Strategic Mandate Agreement 3 (SMA3)

Alignment with SMA3 Skills & Job Outcomes Priority Area

The Canadian Occupational Projection System indicates that there is a shortage for Computer Programmers and Interactive Media Developers in Muskoka-Kawartha Economic Region (Fleming Catchment Area) and in Ontario and Canada. Thus, the labour market will provide employment for graduates thereby supporting the "Graduate Employment Rate in a related Field" performance metric of SMA3.

In SMA3, Fleming College has identified the Project Management, and Supply Chain Management – Global Logistics graduate programs as programs in our areas of strength and focus. The enrolment of these programs has a direct impact on our funding through the “Institutional Strength and Focus” performance metric. The Artificial Intelligence Ontario College Graduate Certificate pairs well with these existing graduate certificates and it is anticipated that International students that choose to attend the AI program will choose to “club” with these programs in order to obtain a longer Post Graduate Work Permit. This clubbing will increase enrolment in the programs identified as areas of strength thereby positively influencing the “Institutional Strength and Focus” performance metric.

Lastly, the AI program boasts a higher than average median wage in Ontario of \$38.46 per hour which will have a positive influence on the “Graduate Employment Earnings” performance metric. And, the program also includes experiential learning in its capstone project course thereby supporting the “Experiential Learning” performance metric of SMA3.

Impacts on Related Fleming Programming and Pathways

This program will complement existing programs in the School of Business and Information Technology. The program will provide a pathway for students graduating from Fleming College’s Computer Engineering Technician or Technology Diplomas. Currently, there are no computer software development programs available to students in the School of Business and Information Technology at the graduate certificate level so this program will fill this gap. The program will also appeal to International students graduating from other Fleming College Graduate Certificate programs such as Supply Chain Management – Global Logistics, Project Management, Mechatronics or Wireless Information Networking.

This program also serves as a pathway for graduates of university degree programs in computer studies, technology, engineering, analytics, mathematics, or statistics looking to increase experiential learning and industry experience. Conversely, articulation agreements may be possible with Trent University or Ontario Tech University (formerly UOIT) allowing for AI graduates to apply credits towards completion of a degree.

4.2. Student Demand Analysis

International students prefer to enroll in four-semester programs or in two separate two-semester programs (known as “clubbing”) as this leads to the longest Post Graduate Work Permit (PGWP). Thus, the School of Business and Information Technology is designing a suite of two-semester graduate certificates, including the new Artificial Intelligence graduate certificate, to increase International student enrolment. By removing the virtual reality training in the original AIVR program, the

program can be reduced to a two-semester program focused solely on AI and machine learning. The School also plans to develop a gaming program that will incorporate the virtual reality training from the original AIVR program that will further this goal.

In addition to International students, the program will target working individuals, university graduates, and graduates of the Fleming College Computer Engineering Technician or Technology programs. The reduction in program length and focus on AI and machine learning will likely attract more students in these student markets as well. In addition, the hybrid format of the courses will allow students increased flexibility to maintain work commitments while completing the program.

4.3. Labour Market Analysis

Occupational Trends

The two occupations used to track labour market demand related to AI and machine learning are 2174 – Computer Programmers and Interactive Media Developers and 2173 – Software Engineers and Designers. Forecasted demand for these occupations by 2026 includes 403 positions regionally, 121,618 positions provincially and 237,242 positions across Canada². Ontario's global position as an IT centre has driven occupational demand for IT-based work, specifically in the Greater Toronto Area, a key market that Fleming College students and graduates would have access to.

The Canadian Occupational Projection System indicates that there is a shortage for Computer Programmers and Interactive Media Developers in Muskoka-Kawartha's Economic Region (Fleming Catchment Area) and in Ontario and Canada. Software Engineers and Designers are also in demand in Ontario and Canada, although data is unavailable for Muskoka-Kawartha's Economic Region³. Most computer programmers and software engineers (NOC-2174; NOC-2173) operate in computer systems design and related services (24.1%% of jobs in 2020). These jobs are also found in other unclassified industries (56.2% of jobs in 2020).

Industry Trends & COVID 19

The artificial intelligence market has been growing steadily in Canada since 2019, and market forecasts indicate that the AI space will continue to grow globally by over 300% by 2024¹. AI and machine learning have the capacity to impact multiple industries from manufacturing to communications to law and education and health. These future jobs are needed for firms to remain competitive. The World Economic Forum also notes the impact that COVID-19 has had on the job market, including rapid advancements in automation through AI – a technological disruption that has the capacity to increase more jobs than it eliminates⁴. Recent discussions by General Motors to invest \$1Billion in electronic car manufacturing in Ontario further

demonstrate the growing need for labour market skills that include advanced computing technologies.

Please see Appendix III: Labour Market Information Details and Appendix IV: Employment Postings for further information.

4.4. Competitor Analysis

There are four colleges in Ontario that offer programming at the graduate certificate level mapped to MCU code 70502 (Information Systems Business Analyst). Only two of these programs are focused on Artificial Intelligence and would compete directly with Fleming's new AI program:

- Durham College's two (non-co-op) or three-semester (co-op) Artificial Intelligence Analysis, Design and Implementation; and
- Georgian College's two-semester Artificial Intelligence - Architecture, Design, and Implementation.

The Fleming graduate certificate curriculum includes training in deep learning and thus aligns all three areas of artificial intelligence, machine learning and deep learning. Durham and Georgian Colleges do not include deep learning in their curriculum. In addition, Fleming's curriculum includes a course in Machine Vision and Image Processing which is unique to the Fleming offering in Ontario.

The University of Toronto Scarborough offers a four-year Bachelor degree and the British Columbia Institute of Technology offers a two year diploma. These programs would not likely compete with the Fleming program as they differ in duration and admission requirements.

As you can see in Table 2 below, there has been a trend towards more applications to this programming from 252 in 2016 to 472 in 2020. This is indicating that there is a trend towards more interest in this credential.

Table 2: Total Applications / Registrations by College for Programs mapped to MCU code 70502 (Information Systems Business Analyst)					
College	2016	2017	2018	2019	2020
Cambrian	11/59	23/45	29/26	60/59	37/56
Durham*	-/-	-/-	-/-	104/43	97/57
George Brown	241/175	300/110	337/128	330/139	307/-
Georgian	-/-	-/-	-/-	-/-	31/-
Total	252/234	323/155	366/154	494/241	472/113

Source: Fall application and registration data pulled from OCAS Data Warehouse using RPT00411 on December 21st, 2020 – Fall term, end of cycle (note: application counts do not include all international applications)

*Colleges in the Eastern Region

For more information on Competitors, please see Appendix V: Competitor Information Details.

5. Community Collaboration

5.1. External Industry Council, Committees or Groups

Letters of support may be found in Appendix VI: Letters of Support.

Council, Committee or Group	Meeting Date	Endorsed (yes/no)
Jobs Council	-	-
Reference Group	Feb. 3, 2021	yes
Program Advisory Committee (if applicable)	n/a	n/a
Other (Partnership organizations)	-	-

5.2. Reference Group or Program Advisory Committee Members

Member	Position	Organization
Hojjat Salehinejad	Data Scientist	St. Michael's Hospital
Mehdi Semsarzadeh	Senior Software Developer	AMD, Inc.
Farshid Faal	Senior Data Scientist	MindBridge AI

5.3. Fleming College Councils and Committees

Council, Committee or Group	Meeting Date	Endorsed (yes/no)
Senior Management Team	March 2021	yes
Strategic Enrolment Management	-	-
Academic Council	-	-
Program Implementation Committee	Dec. 3, 2020	yes
Other	-	-

5.4. Fleming College Board of Governors

Item	Meeting Date	Endorsed (yes/no)
Concept Proposal	Nov. 25, 2020	yes
Business Case	March 24, 2021	

6. Resource Requirements

6.1. Staffing

The School has one existing fulltime faculty with expertise in Artificial Intelligence that will teach and develop several of the AI and Machine Learning courses in the program. Additional part-time faculty will be hired to develop and teach the remainder of the curriculum. In Fall 2022, the School plans to hire an additional fulltime faculty for the program.

6.2. Information Technology

Students will be required to bring your own device (BYOD) for some courses. The recommended BYOD is a laptop to provide the best experience for Artificial Intelligence (AI)- Machine Learning-Deep Learning performance. Brands such as Alienware, ASUS ROG, and the Dell G-Series provide a variety of configurations to meet the minimum specifications. If the user prefers better ML/DL performance, then a workstation-class laptop with a higher-end Nvidia GPU is recommended.

Below are the minimum specifications for ML:

- Minimum Machine Learning Specifications
- CPU: Core i7 or i9, 9th Generation or newer
- Memory: 8GB
- Storage: 512GB SSD or 1TB SSD

6.3. Equipment

The prior AIVR program will require the following equipment:

- Azure Development Tools for Education
- Hive Data Annotation Service
- Nvidia vGPU
- Cameras for AI Vision
- Raspberry Pi 4 8GB
- VR Headsets
- Network Patch Cables

6.4. Space

Lectures will be delivered online with labs taking place in existing computer lab space. Space will also need to be allocated for the servers that were purchased for the AIVR program and that will be used for this program.

6.5. Capital

The new AI program will make use of the servers purchased for the AIVR program. However, one additional GPU Server will need to be purchased to increase section sizes from 20 to 30 students to make the program more financially sustainable. The capital costs will be recouped by year two when the program shows positive net income.

7. Financial Analysis

7.1. Incremental Costing Summary

For more detailed information, please see Appendix VII: Incremental Costing Summary Details.

Description	Class of '21 (Year 1)	Class of '22 (Year 2)	Class of '23 (Year 3)	Class of '24 (Year 4)	Class of '25 (Year 5)
Incremental Revenues	\$80,640.00	\$393,540.00	\$459,180.00	\$467,400.00	\$674,880.00
Incremental Costs	\$130,662.74	\$290,678.88	\$306,407.66	\$306,907.66	\$350,217.66
Net Investment	\$102,342.62	\$5,000.00	-	-	-
NET INCOME	-\$152,365.36	\$97,861.12	\$152,772.34	\$160,492.34	\$324,662.34

7.2. SMA3 Funding Performance Metrics Alignment

This program is expected support several SMA3 performance metrics. The program is expected to have high graduate employment rates in a related field, and graduate employment earnings. The program also includes experiential learning opportunities and will likely have a positive effect on the enrolment of programs listed in the institutional strengths and focus performance metric.

7.3. Program Costing Assumptions

Costing assumes one intake in year 1, two in years 2 through 4, and three intakes in year 5. Retention rates of 90% are assumed from semester 1 to semester 2. The costing also assumes a section size of 20 students in year 1 followed by section sizes of 25 students in year 2, and finally section sizes of 30 students from years 3 through 5.

7.4. Financial Risks

The largest financial risk is low enrollment numbers.

7.5. Countermeasures

To counteract the financial risks due to capital expenditures and development costs, advertisement should begin as soon as MCU funding approval is obtained with targeted marketing campaigns. A first intake of Winter 2022 will allow for more time to market the program. In addition, a smaller intake of 20 students was costed to mitigate the low enrollment risk in year1.

8. Quality Assurance

Fleming College is committed to quality assurance processes that promote excellence in the development, design, delivery, and ongoing review of new and existing academic programs. Mechanisms are in place to demonstrate accountability to Fleming College students, the Board of Governors, the Ministry of Training, Colleges and Universities, and the communities we serve that will ensure all academic program meet or exceed the relevant quality standards including an ongoing and systematic program review process. *(See College Policy #2-213: Program Quality Assurance)*

9. Conclusion / Recommendation

THAT the Board of Governors of Sir Sandford Fleming College approve the Artificial Intelligence Ontario College Graduate Certificate program for launch in Winter 2022.

10. References

¹ Marketline. (2020, October). Global Artificial Intelligence [Industry Profile]. Marketline *Advantage*. Retrieved from <https://advantage-marketline-com.eztest.ocls.ca/Analysis/ViewasPDF/global-artificial-intelligence-110898>

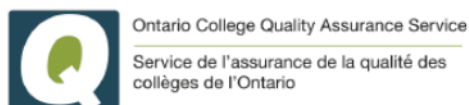
² Economic Modelling Inc. (2021). Occupational summary for. Retrieved from <https://www.economicmodeling.com/>

³ Government of Canada. (2020). 2018-2019 Occupational outlook methodology for Computer Programmers and Interactive Media Developers & Software Engineers and Designers. Retrieved from https://www.jobbank.gc.ca/report_note.do?cid=7267

⁴ Kande, M. & Somnez, M. (2020, October). Don't fear AI. It will lead to long term job growth. World Economic Forum. Retrieved from <https://www.weforum.org/agenda/2020/10/dont-fear-ai-it-will-lead-to-long-term-job-growth/>

11. Appendices

11.1. Appendix I: Validation Documents



*Suite 606 - 130 Queens Quay East,
Toronto, ON, M5A 0P6*

Program Validation Decision

We have completed our validation of your application for the Artificial Intelligence program submitted to us on February 23, 2021 and leading to the conferring of an Ontario College Graduate Certificate.

Please accept this as our validation of your proposal. As a signal of our validation decision, we have assigned the following Approved Program Sequence (APS) number to your program: FLEM04009.

A copy of this validation decision is being sent to the Ministry of Colleges and Universities (MCU) for their information and records.

Sincerely,

Sara Barnes
February 23, 2021



Ontario College Quality Assurance Service
Service de l'assurance de la qualité des
collèges de l'Ontario

Artificial Intelligence

Validated

Description

Fleming College | APS # FLEM04009 | MTCU # 70502
Ontario College Graduate Certificate | No funding requested

Purpose

Students in the Artificial Intelligence Ontario College Graduate Certificate program will learn how to design and create software embedding artificial intelligence to meet industry needs. This program emphasizes modern software design and artificial intelligence frameworks, applied machine learning, big data fundamentals, NLP algorithm, and social media analysis. This program will be delivered in a hybrid learning format with online lectures and laboratory work to allow for applied learning opportunities. Students will apply their knowledge and skills to applied projects, demonstrating their learning and achievement of the vocational learning outcomes. The capstone project will give students the opportunity to demonstrate the achievement of all vocational learning outcomes through the integration of artificial intelligence in industry projects.

Admission Requirements

Ontario College Diploma, Ontario College Advanced Diploma, degree or equivalent with a focus in computer studies, technology, engineering, analytics, mathematics, or statistics, OR an acceptable combination of related work experience and post-secondary education. Proof of English language proficiency is required.

Occupational Areas

Graduates from this program are prepared to fulfill a wide range of entry-level roles related to Artificial Intelligence under NOC Codes 2171 - Information systems analysts and consultants, 2172 - Database

analysts and data administrators, and 2173 - Software engineers and designers.

Graduates could find themselves working independently or as a member of a team to analyze, design, enhance, and maintain AI systems in various positions in all sectors including, but not limited to:

- Consulting Firms
- Financial Services
- Government and Authorities
- International Organizations/Non-Profits
- Technology
- Research and Academic Institutions

Artificial Intelligence (AI) graduates will design and create software embedding artificial intelligence to meet industry needs. Employers for this sector include technology consulting firms, information technology research and development firms, and information technology units through private and public sectors including manufacturers, trades, health care, and the financial sector, or are self-employed.

The artificial Intelligence industry sector has experienced significant growth and is expected to continue this trend. Indeed, assessed the number of jobs requiring artificial intelligence skills since 2013 and report that the number of jobs requiring skills in this field has grown by 1,069% (Galang, 2018). The ten-year national outlook for employment predicts labour shortages as the number of job openings exceeded the number of job seekers in the 2014-2016 period and is expected to continue for the 2017-2026 period (COPS, 2018). With the large investments in the AI sectors and the projected shortage of labour, there is a favourable market potential for graduates leaving the AI program.

Laddering Opportunities

This Ontario College Graduate Certificate program provides a pathway for students entering from Fleming College's Computer Engineering Technology Diploma program or any other College diploma program with a focus on computer programming or coding. Graduates of other Fleming College Graduate Certificate programs may choose to pathway into the Artificial Intelligence program, specifically those enrolled in the Applied Data Analytics, Wireless Information Networking, or Mechatronics programs. Graduates of this program may receive credit for courses taken if they choose to further their education in graduate studies in a similar field.

This program serves as a pathway for graduates of university degree programs in computer engineering or similar programs looking to increase experiential learning and industry experience. In addition, articulation agreements may be possible with Trent University or Ontario Tech University (formerly UOIT) for Artificial Intelligence graduates to apply credits towards the completion of a degree.

Program VLOs

1. Analyze and apply datasets and data mining principles to meet machine learning software project requirements.
2. Recommend different systems architectures and data storage technologies to support data analytics
3. Design and apply deep/machine learning algorithms and models to meet client project specifications.
4. Develop NLP Algorithm to analyze information from structured and unstructured data.
5. Communicate and collaborate effectively with colleagues and clients through all stages of artificial intelligence software creation and production to meet project objectives.
6. Apply project management principles to successfully complete software development projects to client specifications.
7. Implement data solutions in compliance with corporate policies, ethical standards, and industry regulations
8. Design Artificial Intelligence applications using appropriate algorithm and platform to maximize the end-user experience
9. Analyze, design, and implement artificial intelligence (AI) systems through the application of systematic approaches and methodologies to meet organizational needs
10. Extract media information and integrate artificial intelligence elements to meet industry project requirements.

Curriculum

- **NEW1 - Introduction to Data Analysis**
 > Semester 1 | 60 hours
 The focus of this course is to explore the analytical, and statistical methods and tools used to process and visualize data. In this course, students will learn the essential concepts of data analysis using Python programming. Students will work with Python tools and libraries for AI algorithms in a lab environment.
- **NEW2 - Applied Machine Learning**
 > Semester 1 | 60 hours
 Fundamental concept and knowledge of machine learning will be covered in this course using Python and MATLAB. This includes supervised and unsupervised learning (e.g. support vector

machine, clustering, neural network), mathematical and probative approaches. Students will have an opportunity to experiment with machine learning solutions on various datasets.

- **NEW3 - Linear Algebra and statistic for Machine Learning**
 - > Semester 1 | 60 hours
 - This course offers a brief introduction to the multivariate calculus required to build many common machine learning techniques. Students will learn the fundamentals of working with data in vector and matrix form and formulate machine learning tasks.
- **NEW4 - Cloud Computing**
 - > Semester 1 | 60 hours
 - This course offers the student both theory and lab work that examines modern cloud technologies and 'everything-as-a-service' (EAAS) paradigms. The student will learn installation, networking, support, and administration of cloud technologies that can serve the needs of the businesses of today. As well, security and disaster-recovery strategies will be studied and applied.
- **NEW5 - Technical Project Management**
 - > Semester 1 | 21 hours
 - This is a multi-disciplinary course designed to help students develop their skills in managing technical projects management methods. Students will learn how to identify and plan a project and work toward achieving their project goals.
- **NEW6 - Data Governance and Ethics**
 - > Semester 1 | 14 hours
 - Data governance is the management of the availability, usability, integrity and security of data and information. Legal, ethical, and organizational frameworks all must be considered whenever working and presenting information from data. Reviewing studies and applicable legislation students will learn to exercise ethical judgement in the use of data for an organization while also protecting the rights of groups and individuals.
- **NEW8 - Deep Learning**
 - > Semester 2 | 60 hours
 - This deep learning course is based in the Python programming language and will provide students with experience in pandas, matplotlib, numpy, and TensorFlow. Students will have the opportunity to implement different types of Deep learning algorithms, such as Convolutional Neural Networks, Recurrent Networks, and Autoencoders. Students will train neural networks, and create neural network architectures in TensorFlow.
- **NEW9 - Social Media Analytics**
 - > Semester 2 | 60 hours
 - This course introduces the core concepts of social media analytics. The course an introduction to social media data, the foundations of collecting and storing social media data and how to use AI and ML tools to analyze social media data. Also, the course provides students with hands-on practices and the opportunity to build, train and apply models that analyze social media data.

- **NEW10 - Natural Language Processing**

> Semester 2 | 60 hours

By the end of the course, students should have a broad understanding of the field of natural language processing. They should have a sense of the capabilities and limitations of current natural language technologies, and some of the algorithms and techniques that underlie these technologies. They should also understand the theoretical underpinnings of natural language processing in linguistics and formal language theory.

- **NEW11 - AI and ML Capstone Project**

> Semester 2 | 45 hours

This course allows students to work through a guided project from design, development to implementation. This team-based project will provide students the opportunity to demonstrate their combined knowledge in AI, machine learning. Students will be challenged to assign responsibilities, create and maintain satisfactory working relationships with the client, accept feedback, meet project deadlines, manage the production of deliverables to industry standards, and formally present their findings.

- **NEW7 - Machine Vision and Image Processing**

> Semester 2 | 60 hours

This course introduces basic knowledge and concepts of Machine Vision, including image processing, pattern recognition, and object tracking. To gain practical experience in this field, students will use the industry-standard OpenCV library for developing Machine Vision applications. Students will create real-time applications, such as games or simulations, using image and video processing techniques.

VLO Mapping

	VLO 1	VLO 2	VLO 3	VLO 4	VLO 5	VLO 6	VLO 7	VLO 8	VLO 9	VLO 10
NEW1	X							X		
NEW2	X				X				X	X
NEW3	X		X						X	X
NEW4		X								
NEW5					X		X			

	VLO 1	VLO 2	VLO 3	VLO 4	VLO 5	VLO 6	VLO 7	VLO 8	VLO 9	VLO 10
NEW6	X							X		
NEW8	X		X						X	
NEW9	X					X				
NEW10	X			X						
NEW11	X	X	X	X	X	X	X	X	X	X
NEW7		X	X						X	

Certification/Accreditation

Certification type

None exist.

Contact Information

Jennifer Ramsdale, Teaching and Learning Specialist
T: 705-749-5530-1343 | E: Jennifer.ramsdale@flemingcollege.ca

11.2. Appendix II: MCU Program Delivery Information (PDI)

	Semester						
Funded Instructional Setting	1	2	3	4	5	6	Total
Classroom instruction	155	120					275
Laboratory/workshop/fieldwork	120	165					285
Independent (self-paced)							
One-on-one instruction							
Clinical placement							
Field placement/work placement							
Small group tutorial							
Total	275	285					560
	Semester						
Non Funded Instructional Settings	1	2	3	4	5	6	Total
Co-op work placement - Mandatory							
Co-op work placement - Optional							
Degree work placement – Mandatory (shorter than Co-op)							
Total	0	0					
Total	1	2	3	4	5	6	Total
Grand Total	275	285					560

11.3. Appendix III: Labour Market Information Details

OVERVIEW OF THE PROFESSION

NOC 2174: COMPUTER PROGRAMMERS AND INTERACTIVE MEDIA DEVELOPERS

Source: ESDC. (December 2020). Job Market Report.

<https://www.jobbank.gc.ca/marketreport/occupation/22523/ca>

Computer programmers write, modify, integrate and test computer code for software applications, data processing applications, operating systems-level software and communications software. Interactive media developers write, modify, integrate and test computer code for Internet and mobile applications, computer-based training software, computer games, film, video and other interactive media. They are employed in computer software development firms, information technology consulting firms, and in information technology units throughout the private and public sectors.

SUMMARY OF MAIN DUTIES FOR SOME OCCUPATIONS IN THIS GROUP

- | | |
|--|---|
| <ul style="list-style-type: none"> • Computer programmers and interactive media developers perform some or all of the following duties: <p>Computer programmers</p> <ul style="list-style-type: none"> • Write, modify, integrate and test software code • Maintain existing computer programs by making modifications as required • Identify and communicate technical problems, processes and solutions • Prepare reports, manuals and other documentation on the status, operation and maintenance of software • Assist in the collection and documentation of user requirements • Assist in the development of logical and physical specifications • May lead and co-ordinate teams of computer programmers • May research and evaluate a variety of software products. <p>Interactive media developers</p> <ul style="list-style-type: none"> • Program animation software to predefined specifications for interactive | <ul style="list-style-type: none"> video games, Internet and mobile applications • Program special effects software for film and video applications • Write, modify, integrate and test software code for e-commerce, Internet and mobile applications • Assist in the collection and documentation of user requirements • Assist in the development of logical and physical specifications • May lead and co-ordinate teams of interactive media developers • May research and evaluate a variety of interactive media software products. |
|--|---|

COMMON JOB TITLES

- Web programmer
- application programmer
- computer programmer
- operating systems programmer
- programmer analyst
- scientific programmer
- software programmer
- systems programmer
- interactive media developer
- computer game developer
- multimedia developer
- software developer
- business application programmer
- e-business (electronic business) software developer

TYPICAL EMPLOYERS

They are employed in computer software development firms, information technology consulting firms, and in information technology units throughout the private and public sectors.

NOC 2173: SOFTWARE ENGINEERS AND DESIGNERS

Source: ESDC. (December 2020). Job Market Report.

<https://www.jobbank.gc.ca/marketreport/occupation/24510/ca>

Software engineers and designers research, design, evaluate, integrate and maintain software applications, technical environments, operating systems, embedded software, information warehouses and telecommunications software.

SUMMARY OF MAIN DUTIES FOR SOME OCCUPATIONS IN THIS GROUP

Software engineers and designers perform some or all of the following duties:

- Collect and document users' requirements and develop logical and physical specifications
- Research, evaluate and synthesize technical information to design, develop and test computer-based systems including mobile applications
- Develop data, process and network models to optimize architecture and to evaluate the performance and reliability of designs
- Plan, design and co-ordinate the development, installation, integration and operation of computer-based systems including mobile applications
- Assess, test, troubleshoot, document, upgrade and develop maintenance procedures for operating systems, communications environments and applications software
- May lead and co-ordinate teams of information systems professionals in the development of software and integrated information systems, process control software and other embedded software control systems.

COMMON JOB TITLES

- software design engineer
- application architect
- embedded software engineer
- computer software engineer
- software design verification engineer
- software testing engineer
- systems integration engineer - software
- software architect
- technical architect - software
- telecommunications software engineer
- software designer

TYPICAL EMPLOYERS

Source: ESDC. (December 2020). Job Market Report.

<https://www.jobbank.gc.ca/marketreport/occupation/24510/ca>

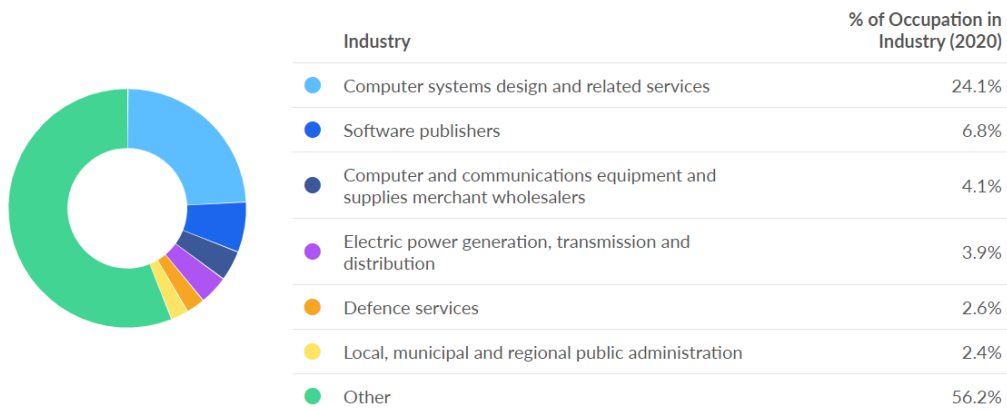
They are employed in information technology consulting firms, information technology research and development firms, and information technology units throughout the private and public sectors, or they may be self-employed.

INDUSTRIES EMPLOYING 2173 AND 2174

Source: EMSI Analyst (2020.3) Data is for census divisions of Durham, Hastings, Kawartha Lakes, Northumberland, Peterborough, Simcoe.

Most Jobs are Found in the Computer systems design and related services Industry Sector

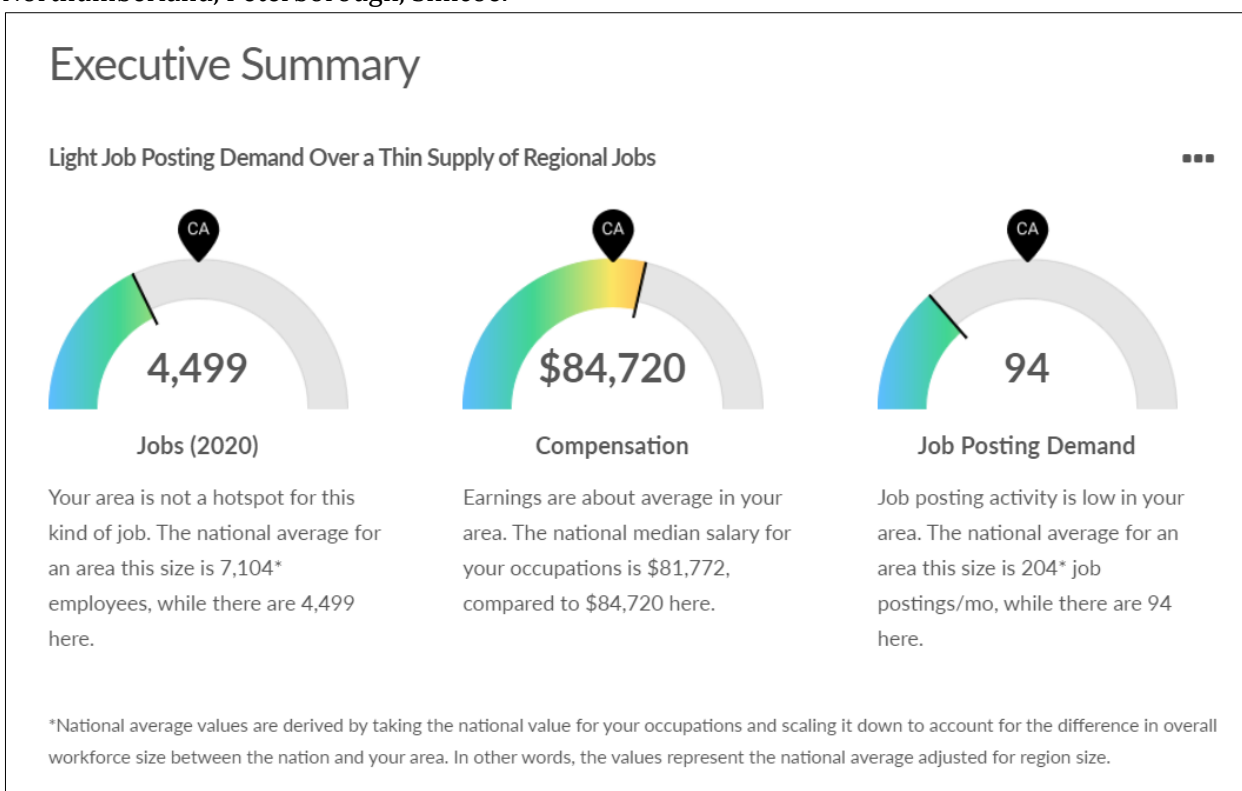
■ ■ ■



LABOUR MARKET

OCCUPATION SUMMARY FOR 2173 AND 2174 COMBINED

Source: EMSI Analyst (2020.3) Data is for census divisions of Durham, Hastings, Kawartha Lakes, Northumberland, Peterborough, Simcoe.



Occupation Table

2 Natural and applied sciences and related occupations in 6 Ontario Census Divisions

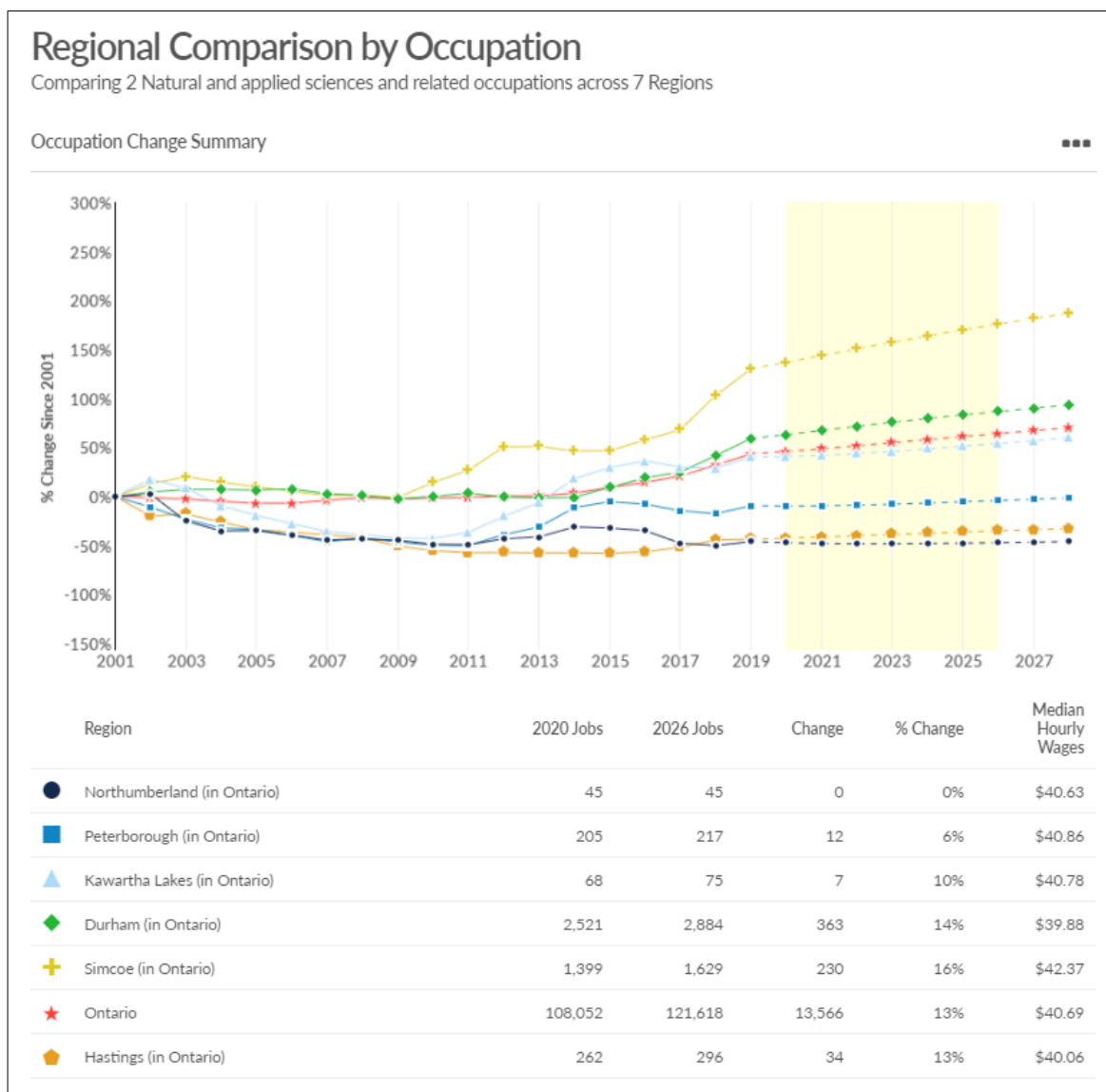
4-Digit ▼ Filter ▼ Keep Hide Jump To ▼ + Create Group Add/Remove Columns

<input type="checkbox"/>	NOC ^	Description	2020 Jobs	2026 Jobs	2020 - 2026 Change	2020 - 2026 % Change
<input type="checkbox"/>	2173	Software engineers and designers	1,236	1,447	211	17%
<input type="checkbox"/>	2174	Computer programmers and interactive media developers	3,263	3,698	435	13%
			4,499	5,146	647	14%

REGIONAL TRENDS

Source: EMSI Analyst (2020.3) Data is for census divisions of Durham, Hastings, Kawartha Lakes, Northumberland, Peterborough, Simcoe.

Jobs per Region



OCCUPATIONAL BREAKDOWN BY CENSUS DIVISION

Source: EMSI Analyst (2020.3) Data is for census divisions of Durham, Hastings, Kawartha Lakes, Northumberland, Peterborough, Simcoe.

2020

Occupation	Description	Northumberland (in Ontario)	Peterborough (in Ontario)	Kawartha Lakes (in Ontario)	Durham (in Ontario)	Simcoe (in Ontario)	Ontario	Hastings (in Ontario)
2174	Computer programmers and interactive media developers	37	160	54	1,781	1,019	76,683	212
2173	Software engineers and designers	<10	44	14	740	380	31,369	50
	Total	45	205	68	2,521	1,399	108,052	262

2026

Occupation	Description	Northumberland (in Ontario)	Peterborough (in Ontario)	Kawartha Lakes (in Ontario)	Durham (in Ontario)	Simcoe (in Ontario)	Ontario	Hastings (in Ontario)
2174	Computer programmers and interactive media developers	36	167	58	2,024	1,174	86,298	239
2173	Software engineers and designers	<10	50	17	859	455	35,320	57
	Total	45	217	75	2,884	1,629	121,618	296

EMPLOYMENT POTENTIAL: PROGRAMMERS/ DEVELOPERS (2174)

Source: ESDC. (December 2020). Job Market Report.

<https://www.jobbank.gc.ca/marketreport/outlook-occupation/22523/ON>

JOB OUTLOOK IN THE MUSKOKA-KAWARTHAS REGION

The employment outlook will be good for Computer programmers and interactive media developers (NOC 2174) in the Muskoka - Kawarthas region for the 2019-2021 period.

The following factors contributed to this outlook:

- Employment growth will lead to several new positions.
- Several positions will become available due to retirements.
- There are a small number of unemployed workers with recent experience in this occupation.

Here are some key facts about Computer programmers and interactive media developers in the Muskoka - Kawarthas region:

- Approximately 610 people work in this occupation.
- Computer programmers and interactive media developers mainly work in the following sectors:
 - Professional, scientific and technical services (NAICS 54): 55%
 - Computer and electronic product manufacturing (NAICS 334): 7%
 - Transportation and warehousing (NAICS 48-49): 6%
 - Educational services (NAICS 61): 5%

PROVINCIAL OUTLOOK FOR ONTARIO:

The employment outlook will be **good** for Computer programmers and interactive media developers (NOC 2174) in Ontario for the 2019-2021 period.

The following factors contributed to this outlook:

- Employment growth will lead to several new positions.
- Not many positions will become available due to retirements.
- There are a small number of unemployed workers with recent experience in this occupation.

Computer programmers and interactive media developers are employed by all sectors, but primarily by computer systems design and related services. Other key employers include the federal government, finance and insurance companies, and software publishers.

Computer programmers and interactive media developers have the second largest workforce size among the five professional occupational groups in computer and information systems.

The fast pace at which new computer applications are being used by most businesses and consumers will continue to support employment growth for these programmers and developers. For example, some of these professionals should be needed to provide programming platforms to support greater precision in agriculture, develop robots for use in industrial settings, e-learning tools in schools and workplaces, as well as add features in new mobile devices.

Yet during the forecast period, one of the key drivers of employment will be the technologies being introduced in the automotive industry. Large automotive manufacturers and software producers have been investing in projects in different areas of the province to develop new features in connected cars and to advance self-driving car projects.

Further, as finance and insurance services continue to transform their processing features, several opportunities are expected for programmers and software developers in these institutions, in digital laboratories, and among the growing number of financial technology (FinTech) start-up companies. Private and public sector venture capital funding is helping to spur growth in the emerging FinTech cluster and other sectors.

Within this occupational group, cloud developers should see a fair amount of openings due to the rising use of this infrastructure by businesses.

In Ontario, video gaming is a vital part of the interactive media industry, and the province accounts for the second largest share of video game companies in Canada. Based on the most recent industry statistics, the province experienced significant growth in the number companies, and a 52% increase in the number of full-time employees generally in the cluster. This trend, along with the availability of provincial tax credits, should bode well for job openings for these individuals. Industry reports mention that programming will be one of the top skills needed in the video game industry.

Generally, dominant technological trends related to artificial intelligence, block chain infrastructure, 3D printing, and virtual and augmented reality will boost employment growth in this occupational group. While employment growth is expected to be favourable over the next few years, the off-shoring of lower value programming work, and the availability of more

adaptable pre-packaged software solutions may mitigate some of the potential opportunities for some of these professionals.

Computer programmers and interactive media developers is the top occupation found by graduates (32%) of computer science bachelor degree programs from universities in Ontario. Graduates of college programs also add to the supply of new entrants.

Computer programmers and interactive media developers with experience and up-to-date skills in programming languages such as C++, SQL, Java and Visual Basic, and operating systems UNIX or Linux will have more favourable employment prospects. Some positions will also seek individuals with skills developing cloud technologies. In addition to sound technical knowledge, professionals with strong communication and soft skills may fare better in the labour market. Individuals who are willing to accept temporary or contract-based assignments may also have greater employment opportunities.

Apart from job fairs and other traditional hiring methods, employers and other stakeholders organise 'hackathons' as a way of identifying and recruiting top IT talent.

In looking beyond the forecast period, a growing share of Ontario's workforce is expected to have basic coding and other digital skills. In addition to public sector investments, several educational institutions and training centres are offering related short-term intensive courses.

Here are some key facts about Computer programmers and interactive media developers in the Ontario region:

- Approximately 76,100 people work in this occupation.
- Computer programmers and interactive media developers mainly work in the following sectors:
 - Computer systems design services (NAICS 5415): 42%
 - Information and cultural industries (NAICS 51): 11%
 - Monetary Authorities - central bank and securities, commodity contracts and other intermediation and related activities (NAICS 521, 522, 523): 8%
 - Federal government public administration (NAICS 911): 6%
- The distribution of full-time and part-time workers in this occupation is:
 - Full-time workers: 95% compared to 79% for all occupations
 - Part-time workers: 5% compared to 21% for all occupations
- 72% of computer programmers and interactive media developers work all year, while 28% work only part of the year, compared to 63% and 37% respectively among all occupations. Those who worked only part of the year did so for an average of 32 weeks compared to 31 weeks for all occupations.
- 10% of computer programmers and interactive media developers are self-employed compared to an average of 12% for all occupations.

EMPLOYMENT POTENTIAL: SOFTWARE ENGINEERS / DESIGNERS (2173)

Source: ESDC. (December 2020). Job Market Report.

<https://www.jobbank.gc.ca/marketreport/outlook-occupation/24510/ON>

MUSKOKA-KAWARTHAS REGION

The prospect of finding work in this occupation was fair over the past few years (2016-2018). The number of job openings was about the same as the number of workers available.

An employment outlook has not been assigned to this occupation in this region due to low levels of employment.

ONTARIO

The employment outlook will be **good** for Software engineers and designers (NOC 2173) in Ontario for the 2019-2021 period.

The following factors contributed to this outlook:

- Employment growth will lead to several new positions.
- Not many positions will become available due to retirements.
- There are a small number of unemployed workers with recent experience in this occupation.

Software engineers and designers are employed across a variety of industries, but mainly for companies providing computer systems design and related services. Other key employers include wholesalers of computer and communications equipment, software publishers, and the finance and insurance services sector.

This occupation experienced significant employment growth over the last decade due to the increasing reliance on computer software and the Internet for many common services. Yet during the forecast period, one of the key drivers of employment will be the technologies being introduced in the automotive industry. Large automotive manufacturers and software producers have been investing in projects in different areas of the province to develop new features in connected cars and to advance self-driving car projects. Software engineers should also benefit from other significant investments in facilities, including by a ride-sharing transportation service provider in a new engineering laboratory. Expansions in technology and innovation hubs by other companies also bode well for employment in the occupation.

In addition, as the financial services continue to transform their operating platforms, several opportunities are expected for software engineers and designers in these institutions, in digital laboratories, and among the growing number of financial technology (FinTech) start-up companies. Private and public sector venture capital funding is helping to spur growth in the emerging FinTech cluster and other sectors.

Within this occupation, artificial intelligence designers and related roles should also experience an increasing amount of job prospects. Artificial intelligence (AI) allows machines and built-in software to perform tasks which are usually undertaken by human beings, such as learning and processing information. There is a growing interest in applying these techniques to many types of business activities, including e-commerce, finance, healthcare, legal services and manufacturing. A research institute to develop AI-related expertise specific to deep learning and machine learning has been established in Toronto and this effort should result in a wider use of the technology by companies in Ontario over the longer term, and support employment demand for these professionals.

Similarly, cloud architects in this occupation should see a fair amount of job openings as more information technology services are virtualized, and resulting from initiatives associated with the 'smart city' concept.

Other dominant technological trends will drive job prospects for software engineers and designers, including block chain infrastructure, 3D printing and virtual and augmented reality. A fair amount of job openings should also be generated in the province's growing video game industry.

The most recently available data shows that this occupation accounts for the second highest share of graduates (24%) of computer science bachelor degree programs from universities in Ontario. Graduates of college programs also add to the supply of new entrants.

It is noticeable that in Ontario, a higher share of software engineers and designers (32%) have attained a university certificate, diploma or degree above the bachelor's level, when compared with the other four computer and information systems professional occupations.

In addition to a bachelor's or master's degree in computer science, software engineering or a related discipline, employers tend to seek individuals who are proficient in the latest technologies, including cloud infrastructure, and programming languages such as Java and Structured Query Language (SQL). The requirement for recruits with over 5 years' experience is also common, as well as the ability to apply Agile engineering best practices in the work environment. Along with sound technical knowledge, professionals with strong communication and soft skills may fare better in the labour market.

Apart from job fairs and other traditional hiring methods, employers and other stakeholders are increasingly organising 'hackathons' as a way of identifying and recruiting top IT talent.

Here are some key facts about Software engineers and designers in the Ontario region:

- Approximately 28,750 people work in this occupation.
- Software engineers and designers mainly work in the following sectors:
 - Computer systems design services (NAICS 5415): 40%
 - Information and cultural industries (NAICS 51): 11%
 - Other professional, scientific and technical services (NAICS 5414, 5416-5419): 9%
 - Wholesale trade (NAICS 41): 8%
 - Monetary Authorities - central bank and securities, commodity contracts and other intermediation and related activities (NAICS 521, 522, 523): 7%
- The distribution of full-time and part-time workers in this occupation is:
 - Full-time workers: more than 95% compared to 79% for all occupations
 - Part-time workers: less than 5% compared to 21% for all occupations
- 73% of software engineers and designers work all year, while 27% work only part of the year, compared to 63% and 37% respectively among all occupations. Those who worked only part of the year did so for an average of 34 weeks compared to 31 weeks for all occupations.
- 8% of software engineers and designers are self-employed compared to an average of 12% for all occupations.

NATIONAL 10 YEAR PROJECTION: COMPUTER PROGRAMMERS / INTERACTIVE MEDIA DEVELOPERS

Source: Canadian Occupational Projection System (COPS). (October 2019)
<http://occupations.esdc.gc.ca/sppc-cops/occupationsummarydetail.jsp?&tid=83>

Computer programmers and interactive media developers (2174)

Occupational Outlook

SHORTAGE: This occupational group is expected to face labour shortage conditions over the period of 2019-2028 at the national level. The section below contains more detailed information regarding the outlook for this occupational group.

- Skill Type: Natural and applied sciences and related occupations
- Skill Level: Occupations usually require university education.
- Employment in 2018: 167,900
- Median Age of workers in 2018: 38.9 years old
- Estimated Median Age of Retirement in 2018: 61 years old

In order to determine the expected outlook of an occupation, the magnitude of the difference between the projected total numbers of new job seekers and job openings over the whole projection period (2019-2028) is analyzed in conjunction with an assessment of labour market conditions in recent years. The intention is to determine if recent labour market conditions (surplus, balance or shortage) are expected to persist or change over the period 2019-2028. For instance, if the analysis of key labour market indicators suggests that the number of job seekers was insufficient to fill the job openings (a shortage of workers) in an occupational group in recent years, the projections are used to assess if this situation will continue over the projection period or if the occupation will move towards balanced conditions.

Over the 2016-2018 period, employment in this occupational group increased at a pace that was higher than the average of all occupations. The unemployment rate increased slightly, but remained around its own historical low norms and well below the national average in 2018. Finally, as the number of job vacancies increased significantly and the number of unemployed workers remained somewhat stable, the number of unemployed workers per job vacancy was substantially below the national average over the same period. Hence, the analysis of key labour market indicators suggests that the number of job openings exceeded substantially the number of job seekers in this occupational group over the 2016-2018 period.

Over the period 2019-2028, the number of job openings (arising from expansion demand and replacement demand) for Computer programmers and interactive media developers are expected to total 64,200, while the number of job seekers (arising from school leavers, immigration and mobility) is expected to total 75,800 .

As job openings and job seekers are projected to be relatively similar over the 2019-2028 period, the labour shortage conditions seen in recent years are expected to continue over the projection period. Retirements and job growth are expected to account for the majority of job openings. Employment is projected to grow at a rate higher than the national average. As a result, job creation will represent half of all openings, a proportion that is above the average of all occupations (about 27% of openings). Most of these workers are employed in the industries of

computer systems design and related services; finance, insurance, real estate and leasing services; and telecommunications, information and culture services industries. Demand for workers in this occupation is expected to be supported by technological changes. Indeed, rapid innovation will continue, inducing Canadian firms to adapt quickly and upgrade their IT infrastructure to remain digitally safe and competitive. In addition, new technologies such as artificial intelligence, 3D printing and Blockchain will continue to emerge, thereby supporting the demand for workers in this occupation. The stronger penetration of newer technologies in the telecommunications, information and culture services industry such as virtual and augmented reality as well as 5G mobile will also provide job opportunities for computer programmers and interactive media developers. Retirements will also account for a significant proportion of job openings (about 39%). Most workers in this occupational group are younger than average, but retire at a similar age than workers in other occupations. Therefore, the share of workers who are retiring and who will need to be replaced is expected to be lower than the average.

With regard to labour supply, the number of school leavers in computer science is projected to continue to be high since this field of study remains attractive to young people. Immigration will continue to be a major contributor to job seekers, as this occupational group is very popular among newcomers. The skills typically required in this occupation are usually standard worldwide and not unique to the Canadian labour market. As a result, there are lower barriers for immigrants to become computer programmers and interactive media developers. In addition, foreigners in this occupational group coming from countries with a free trade agreement with Canada might be eligible to work in Canada, simplifying their entry and permanency in the country. Conversely, a significant number of workers are expected to leave this occupation for other related occupations, in particular to seek jobs in information and technology related occupations such as software engineers and designers (2173) and user support technicians (NOC 2282). As a result, the shortage conditions observed in recent years is not expected to disappear over the projection period.

Projection of Cumulative Job Openings and Job Seekers over the Period of 2017-2026

	Level	Share
Expansion Demand:	32,100	50%
Retirements:	24,700	38%
Other Replacement Demand:	3,300	5%
Emigration:	4,000	6%
Projected Job Openings:	64,200	100%

	Level	Share
School Leavers:	71,000	94%
Immigration:	23,600	31%
Other:	-18,800	-25%
Projected Job Seekers:	75,800	100%

NATIONAL 10 YEAR PROJECTION: SOFTWARE ENGINEERS AND DESIGNERS (2173)

Source: Canadian Occupational Projection System (COPS). (October 2019).

<http://occupations.esdc.gc.ca/sppc-cops/occupationsummarydetail.jsp?&tid=82>

Software engineers and designers (2173)

SHORTAGE: This occupational group is expected to face labour shortage conditions over the period of 2019-2028 at the national level. The section below contains more detailed information regarding the outlook for this occupational group.

- Skill Type: Natural and applied sciences and related occupations
- Skill Level: Occupations usually require university education.
- Employment in 2018: 57,600
- Median Age of workers in 2018: 40.7 years old
- Estimated Median Age of Retirement in 2018: 61 years old

In order to determine the expected outlook of an occupation, the magnitude of the difference between the projected total numbers of new job seekers and job openings over the whole projection period (2019-2028) is analyzed in conjunction with an assessment of labour market conditions in recent years. The intention is to determine if recent labour market conditions (surplus, balance or shortage) are expected to persist or change over the period 2019-2028. For instance, if the analysis of key labour market indicators suggests that the number of job seekers was insufficient to fill the job openings (a shortage of workers) in an occupational group in recent years, the projections are used to assess if this situation will continue over the projection period or if the occupation will move towards balanced conditions.

Over the 2016-2018 period, employment in this occupational group increased at a pace substantially higher than the average of all occupations. This was reflected in a decline of its unemployment rate, reaching a low historical point and remaining significantly below the national average in 2018. Additionally, the job vacancy rate was significantly higher than average, while the number of unemployed workers per job vacancy was consistently below one over the same period. Hence, the analysis of key labour market indicators suggests that the number of job openings exceeded substantially the number of job seekers in this occupational group over the 2016-2018 period.

Over the period 2019-2028, the number of job openings (arising from expansion demand and replacement demand) for Software engineers and designers are expected to total 27,500, while the number of job seekers (arising from school leavers, immigration and mobility) is expected to total 24,000 .

The labour shortage conditions seen in recent years are expected to persist into the 2019-2028 period, and could even become more acute as the projected number of job openings is expected to be substantially larger than the projected number of job seekers over that period. Retirements and job growth are expected to account for the majority of job openings. Employment is projected to grow at a significantly higher rate than the average of all occupations. As a result, job creation will represent more than half of all openings, a proportion that is above the average of all occupations (about 27% of openings). Most of these workers are employed in the industries of computer systems design and related services, as well as in telecommunications, information and culture services. Computer systems design will continue outperforming most

industries in terms of production and employment growth, as demand is expected to be supported by technological changes. Rapid innovation will continue, inducing Canadian firms to adapt quickly and upgrade their IT infrastructure to remain competitive. In addition, new technologies such as artificial intelligence, 3D printing and Blockchain will continue to emerge, thereby supporting the demand for workers in this occupation. The stronger penetration of newer technologies in the telecommunications, information and culture services industry such as virtual and augmented reality as well as 5G mobile will also provide job opportunities for software engineers and designers. Retirements will also account for a significant proportion of job openings (about 35%). The retirement rate is expected to be similar to the average of all occupations as these workers tend to have a similar age structure to that of all occupations and tend to retire at a similar age.

With regard to labour supply, the number of computer science school leavers is projected to continue to be high since this field of study remains attractive to young people. Immigration will continue to be a major contributor to job seekers, as this occupational group is very popular among newcomers. The skills typically required in this occupation are usually standard worldwide and not unique to the Canadian labour market. As a result, there are lower barriers for immigrants to become software engineers and designers. In addition, foreigners in this occupational group coming from countries with a free trade agreement with Canada might be eligible to work in Canada, simplifying their entry and permanency in the country. Conversely, a significant number of workers are expected to leave this occupation for other occupations, in particular to seek jobs in information and technology related occupations such as information systems analysts and consultants (NOC 2171). As a result, the shortage conditions observed in recent years are expected to become more acute over the projection period.

Projection of Cumulative Job Openings and Job Seekers over the Period of 2019-2028

	Level	Share
Expansion Demand:	14,800	54%
Retirements:	9,700	35%
Other Replacement Demand:	1,600	6%
Emigration:	1,400	5%
Projected Job Openings:	27,500	100%

	Level	Share
School Leavers:	25,200	105%
Immigration:	16,500	69%
Other:	-17,600	-73%
Projected Job Seekers:	24,000	100%

WAGE ESTIMATES: COMPUTER PROGRAMMERS /INTERACTIVE MEDIA DEVELOPERS (2174)

Source: ESDC. (December 2020). Job Market Report.

<https://www.jobbank.gc.ca/marketreport/wages-occupation/22523/ON>

Community/Area	Wages (\$/hour)		
	Low	Median	High
Ontario	22.78	38.46	57.69
Hamilton–Niagara Peninsula Region	25.00	39.90	57.69
Kingston–Pembroke Region	N/A	N/A	N/A
Kitchener–Waterloo–Barrie Region	24.04	43.27	61.54
London Region	25.00	40.38	50.96
Muskoka–Kawartha Region	N/A	N/A	N/A
Northeast Region	N/A	N/A	N/A
Northwest Region	22.78	38.46	57.69
Ottawa Region	21.00	38.67	61.06
Stratford–Bruce Peninsula Region	22.78	38.46	57.69
Toronto Region	22.00	38.46	57.69
Windsor–Sarnia Region	22.78	38.46	57.69
Canada	cc 21.63	37.95	57.50

WAGE ESTIMATES: SOFTWARE ENGINEERS AND DESIGNERS (2173)

Source: ESDC. (December 2020). Job Market Report.

<https://www.jobbank.gc.ca/marketreport/wages-occupation/24510/ON>

Community/Area	Wages (\$/hour)		
	Low	Median	High
Ontario	29.81	46.15	67.31
Hamilton–Niagara Peninsula Region	29.81	46.15	67.31
Kingston–Pembroke Region	30.77	43.27	49.23
Kitchener–Waterloo–Barrie Region	32.78	47.12	62.50
London Region	26.67	43.27	74.00
Muskoka–Kawartha Region	29.81	46.15	67.31
Northeast Region	29.81	46.15	67.31
Northwest Region	N/A	N/A	N/A
Ottawa Region	36.92	52.88	74.36
Stratford–Bruce Peninsula Region	N/A	N/A	N/A
Toronto Region	28.93	44.23	64.10
Windsor–Sarnia Region	29.81	46.15	67.31
Canada	cc 28.85	45.67	67.31

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Overby, Stephanie (December 2020). 10 top Artificial Intelligence (AI) trends in 2021. *The Enterprisers Project*. <https://enterpriseproject.com/article/2020/12/artificial-intelligence-ai-top-trends-2021>

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Kande, M. & Sonmez, M. (October 2020). **Don't fear AI. It will lead to long-term job growth.** *World Economic Forum*. <https://www.weforum.org/agenda/2020/10/dont-fear-ai-it-will-lead-to-long-term-job-growth/>

- COVID-19 has accelerated the automation of many tasks, leading some to fear artificial intelligence (AI) will take their jobs.
- But AI will create more jobs than it destroys.
- To embrace this change, companies and governments must focus on upskilling and reskilling.

Job landscape

By 2025, new jobs will emerge and others will be displaced by a shift in the division of labour between humans and machines, affecting:



Source: Future of Jobs Report 2020, World Economic Forum.

FEDERAL/PROVINCIAL IMPACT

Strome, Elissa. (November 2020). **Canada, a destination for AI talent an innovation.** CIFAR Pan-Canadian AI Strategy: A look toward 2030. *CIFAR*.

<https://cifar.ca/cifarnews/2020/11/23/a-look-toward-2030/>

The goal of the 2017 Strategy was to “build vibrant AI ecosystems, founded upon deep talent pools, in order to catalyze further investment by the public- and private-sectors, and deliver social and economic impact. “

- Achievements of Pan-Canadian AI Strategy so far:
 - Eighty Canada CIFAR AI Chairs named
 - More than 1,200 graduate students and postdoctoral fellows trained at our three national AI Institutes
 - Significant follow-on investment by provincial governments and the private sector, including more than forty-five new private sector AI R&D labs established in Canada
 - Foreign direct investment in ICT has doubled and tech jobs have grown twice as fast as the average job growth
- Since 2015 Canada has moved up 20 spots in the ranks of the international AI skills migration index to fourth in the world in 2019.
- need to focus our efforts to deploy AI into the sectors where it can bring the greatest benefits to Canadians: health care, the environment, education, finance, transportation, the energy sector, etc
- We must stay at the forefront of responsible AI. Finally, we need to be proactive in engaging more women and other underrepresented groups in the field

AI for Health Task Force (July 2020). **Building a learning health system for Canadians.** *CIFAR*.

<https://cifar.ca/ai/national-program-of-activities/ai4health-task-force/>

AI can deliver benefits to the health of Canadians in three primary ways:

- Improving the effectiveness, efficiency and safety of health service delivery;
- Providing insights to inform both disease prevention and policies addressing broader population health determinants; and
- Underpinning the discovery and development of new diagnostic tools and treatments.

In order to realize those benefits, governments need to act urgently on three broad fronts.

- Establishing an AI4H info-structure
- Accelerate safe AI4H applications
- Develop AI4H Strategy

Government of Ontario. (August 2020). **Ontario Drives Innovation in the Automotive Sector.**

Newsroom. <https://news.ontario.ca/en/release/58024/ontario-drives-innovation-in-the-automotive-sector>

- The Ontario government is launching the next round of applications for the [Ontario Automotive Modernization Program \(O-AMP\)](#). The \$10-million O-AMP provides auto

parts companies with funding to invest in new technologies and support innovation in Ontario's automotive supply chains

- 10 Ontario connected and autonomous vehicle (C/AV) companies were provincial delegates to a major international event for connected vehicle technologies (TU-Automotive Detroit),
 - Their focus was Ontario's leadership in areas such as artificial intelligence, sensors and imaging, cybersecurity, data analytics, the Internet of Things and smart infrastructure.
- Global leaders including GM, Ford, BlackBerry QNX, Uber and Renesas have invested over \$1 billion in the development of connected and autonomous vehicle technologies in Ontario.
- Ontario is the only place in North America where five major automakers build vehicles — Fiat Chrysler, Ford, General Motors, Honda, Toyota — as well as truck manufacturer Hino.

Government of Ontario. (December 2021). Ontario's Tech Ecosystem Shines at CES 2021. *Invest in Ontario*. <https://www.investinontario.com/spotlights/ontarios-tech-ecosystem-shines-ces-2021>

- Consumer Electronics Show will be held virtually in January 2021
- 25 companies from Ontario presented including:
 - AI products, services and platforms—Applied Brain Research, contextere, iNAGO, Markitech, MoviWear, Private AI and SageTea
 - Robotics and Autonomous Robots—CrossWing, Roboeatz, Signifi Solutions and VTRAC Robotics Corporation
- Ontario is home to a vast network of 23,000 innovative tech firms powered by a highly-skilled workforce, 300,000+ strong.
- Ontario has 44 colleges and universities producing nearly 50,000 STEM graduates annually

11.4. Appendix IV: Employment Postings

SAMPLE POSTING 1 - AI

Data Scientist / Artificial Intelligence Architect

AirGate Technologies, Inc.

Vaughan, ON

Job Type: Full-time, Permanent, Virtual job/ Telework, Work from home

Benefits: Group Insurance Benefits

Job requirements

Languages: English

Education: Bachelor's degree in Computer Science /Computer Engineering/ Other/ Mathematics, General

Experience: 5 years or more

Specific Skills

Apply mathematical techniques to the solution of problems in scientific fields or other fields; Collect and document user's requirements and develop logical and physical specifications; Research, evaluate and synthesize technical information to design, develop and test computer-based systems; Develop data, process and network models to optimize architecture and to evaluate the performance and reliability of designs; Plan, design and co-ordinate the development, installation, integration and operation of computer-based systems; Assess, troubleshoot, document, upgrade and develop maintenance procedures for operating systems, communications environments and applications software; Lead and co-ordinate teams of information systems professionals in the development of software and integrated information systems, process control software and other embedded software control systems

Operating Systems: VMS; Unix; MS Windows; Linux; Environment - Distributed

Operating Systems and Software: Android

Computer Applications: Data manipulation and analysis

Area of Specialization: Networks; Communications

Work Setting: Research and development institution; Telecommunications industry; Startup company

Programming Languages: C; C++; C#; Python; Git; Go; R

Transportation/Travel Information: Willing to travel; Willing to travel regularly; Willing to travel for extended periods

Computer and Technology Knowledge: Word processing software; TCP/IP; Spreadsheet; Internet; Database software; Networking software; Intranet; Servers; Communication software; Project management software; Software development; Data analysis software; MS Office; Desktop applications; Cloud

Technical Experience: Biometrics

Personal Suitability: Excellent oral communication; Excellent written communication; Analytical

Work Fields Experience: Computer science

<https://www.jobbank.gc.ca/jobsearch/jobposting/33409512?source=searchresults>

SAMPLE POSTING 2 - AI

AI Researcher

Twenty Two

Toronto, ON

Full-time, Permanent - Temporarily remote

\$80,000 a year

Job Description:

- Lead and architect computer vision and machine learning algorithms and applications development
- Lead proof-of-concept implementations, prototypes and demos to fine-tune technologies to practical, state-of-the-art systems.
- Champion new thinking and creativity in team members. Coach others on how to effectively develop, communicate, and implement new solutions.
- Serve as an organizational spokesperson on specialized projects or programs.

You are:

- Strong publication record in the broad area of computer vision or artificial intelligence demonstrating original thinking, problem solving and critical performance validation
- Experience in leading the development of computer vision and machine learning algorithms and applications
- Solid foundation in computer vision; key areas of interest include point cloud processing and 3D object detection.
- Scripting and prototyping languages: Python, C/C++
- Generic packages: OpenCV, Pytorch
- Experience with Linux
- Good presentation skills, both prepared and “on demand” talks

Experience: Computer Vision: 1 year (Preferred)

<https://ca.indeed.com/jobs?q=Artificial%20Intelligence&l=ontario&radius=50&vjk=77b86cab178c0694>

SAMPLE POSTING 3 - ML

DevOps & Machine Learning Integration Analyst

Canadian National Railway

Toronto, ON

The role of Analyst Solution/System Integration is responsible for the successful deployment of advanced infrastructure, telecom, Industrial IoT, software development, application, and technology solutions, systems and services. The role ensures that all business requirements are met by team members and projects, and contributes to the global evolution of CN's I&T. Clients can be from within I&T or direct lines of business. The Analyst Solution/System Integration must connect the dots between application, telecom, infrastructure, and business processes. The key is to ensure that the technology delivered is secure, reliable, available, resilient, performant, and aligned with safety standards per business requirements.

Main Responsibilities

Devops- Machine Learning Analysis

- Responsible for the production of integration specifications for devops-machine learning technologies to ensure the overall stability, integrity performance of CN's operation services. This includes compliance, setting integration and configuration standards as well as visiting and inspecting field sites if required.
- Review, analyze, evaluate and maintain an organization's telecommunications system. It also validates field information for compliance of telecommunications wireless solutions, and provides customer training of the telecommunications compliance features and functionality.

Devops- Machine learning Deployment

- Participate in massive deployment of devops-machine learning solutions.
- Update devops-machine learning inventory systems.
- Ensure to follow integrations specifications to meet all business requirements.
- Coordinate with technician in the field and business owner for maintenance window.
- Assess site and evaluate impact for each deployment or migration.
- Travel to site for deployments when required.
- Apply, and ensure compliance with, all appropriate CN I&T standards (eg. Security, Architecture, Project Delivery Methodology, SOX, etc.).

Requirements

Experience

- Minimum of 3-5 years of relevant experience
- Knowledge in cloud computing
- Strong familiarity with CNN for objects detection, segmentation and classification.
- Familiarity with machine learning application to time series analysis.
- Experience with Tensorflow, Keras, Spark, Opencv, Pytorch, etc
- Strong Knowledge in machine learning or AI feature and application in the SaaS software

- Experience with Natural language processing, text understanding, classification, pattern recognition, recommendation systems, targeting systems, ranking systems or similar
- Strong knowledge of CI/CD tools (Jenkins, Gitlab CI, Github Actions, etc)
- Able to code in Python or Java.
- Strong knowledge on monitoring application and infrastructure
- Knowledge in logs management, application monitoring, infrastructure monitoring
- Knowledge of monitoring and logging for containers and orchestrators.
- Familiar with ISO30162 and IoT

Skills/Knowledge

- Strong documentation skills, process driven attitude
- Good communication skills
- Full stack development of AI Feature and application in various area.
- Identify Models to be used and improve model accuracy
- Participate in the product definition, especially around the aspect of AI, machine learning, to translate complex business requirement into concrete technical solution.
- Develop new way to get information from the application to get more data for the monitoring
- Use the data in the log management for pattern recognition
- Analyse and develop Infra monitoring with integration with third party or internal script(s).
- Manage cloud design pattern for availability, data management, design and implementation, management and monitoring.
- Review and build process and documentation
- Able to support and develop solutions with the Azure, Google cloud platform and DevOps marketplace.
- Understand public cloud infrastructure and DevOps solutions,
- Use and build best practice materials
- Enable development teams to leverage cloud-native architectures with new and existing applications

Assets

- Knowledge of networking, security and protocol
- PTC and Rail industry experience
- IoT experience
- Knowledge of bash scripting

Education/Certification/Designation

- Bachelor's degree in Business, Computer Science, Computer Engineering, Electrical Engineering, a related field of study, or equivalent work experience
- Devops Certification as asset
- Azure certification an asset
- Google certification an asset

Working Conditions: This role may require occasional business travel in accordance with CN policy for meetings

About CN: CN is a world-class transportation leader and trade-enabler. Essential to the economy, to the customers, and to the communities it serves, CN safely transports more than 300 million tons of natural resources, manufactured products, and finished goods throughout North America every year. As the only railroad connecting Canada's Eastern and Western coasts with the Southern tip of the U.S. through a 19,500 mile rail network, CN and its affiliates have been contributing to community prosperity and sustainable trade since 1919. CN is committed to programs supporting social responsibility and environmental stewardship. At CN, we work as ONE TEAM, focused on safety, sustainability and our customers, providing operational and supply chain excellence to deliver results.

CN is an employment equity employer and we encourage all qualified candidates to apply. We thank all applicants for their interest, however, only candidates under consideration will be contacted. Please monitor your email on a regular basis, as communication is primarily made through email.

<https://ca.indeed.com/jobs?q=machine%20learning&l=Ontario&radius=50&advn=9891935779428809&vjk=31d3e42ccec6f9d2>

SAMPLE POSTING 4 - ML

Machine Learning Software Developer

Primate Labs Inc.

Toronto, ON

Full-time, Permanent - Temporarily remote

\$80,000 - \$140,000 a year

Primate Labs, a small (but mighty!) software company located in Toronto, is looking for enthusiastic developers to join our team and help us build a new machine learning benchmark that measures the performance of popular neural network accelerators.

Our customers are diverse, from individual consumers to Fortune 500 hardware companies, and rely on us to provide applications that produce accurate and unbiased performance assessments.

The ideal candidate will thrive in an entrepreneurial environment and enjoy working within a small tight-knit team.

Responsibilities

The Machine Learning Developer will work research, design, and develop machine learning benchmark tests to measure the performance of mobile neural network accelerators. The benchmark tests are written using TensorFlow Lite and Core ML. The benchmark tests will draw from a wide variety of machine learning applications including object classification, image segmentation, pose estimation, machine translation, and sentiment analysis.

This role will also be responsible for communicating experimental results from the benchmark tests both internally to project stakeholders and externally to representatives from hardware and platform vendors.

Required Skills

We're looking for candidates with the following background and skills:

- An understanding of neural networks and how they work.
- Experience with either TensorFlow or Core ML.
- Experience with C++ and Python.
- Strong written communication skills.
- Self-motivated and able to work independently with minimal supervision.
- An undergraduate degree in a technical field.

The following skills are nice to have but by no means necessary:

- Experience with Java, Objective-C, or Swift.
- Experience developing for Android or iOS.

Compensation And Benefits Information

Primate Labs offers a fun and exciting working environment with a minimum of bureaucracy.

Compensation includes a competitive salary, generous vacation time, medical and dental benefits.

Benefits:

- Casual dress
- Dental care
- Extended health care
- Paid time off
- Vision care

COVID-19 considerations:

Primate Labs is minimizing the number of employees in the office, and most employees will work from home for most of 2021.

<https://ca.indeed.com/jobs?q=machine%20learning&l=Ontario&radius=50&advn=842554376311161&vjk=decc1e27d6b08536>

11.5. Appendix V: Competitor Information Details

COMMUNITY COLLEGE/INSTITUTE INFORMATION

COLLEGE	PROGRAM TITLE	LENGTH, TYPE (DIPLOMA, CERT., POST)	DELIVERY METHOD(S)	OTHER (UNIQUE TO THE PROGRAM)
Centennial	Software Engineering Technology – Artificial Intelligence	Ontario College Advanced Diploma	Online Delivery Optional co-op Fast –track available (4 semesters)	
Durham	Artificial Intelligence Analysis, Design and Implementation	Graduate Certificate Two semesters (optional third semester work term)		Laptop required Students will also benefit from and contribute to the Durham College Hub for Applied Research in Artificial Intelligence for Business Solutions (the AI Hub)
Georgian	Artificial Intelligence – Architecture, Design and Implementation	Graduate Certificate	Part-time available	Laptop required (Windows)

PROVINCIAL PRIVATE COLLEGES & OTHER EDUCATIONAL OPPORTUNITIES

Source: Schoolfinder.com

INSTITUTION	PROGRAM TITLE	LENGTH, TYPE (DIPLOMA, CERT., POST)	DELIVERY METHOD(S)	OTHER (UNIQUE TO THE PROGRAM)
University of Toronto Scarborough	Statistics – Machine Learning & Data Mining Stream	Honours Bachelor of Science	Co-op available	
British Columbia Institute of Technology (BCIT) Burnaby, BC	Computer Systems Technology – Artificial Intelligence and Machine Learning	Diploma 2 years	Second year allows specialization in AI	

11.6. Appendix VI: Letters of Support



Caring hearts. Leading minds.

February 03, 2021

Musabbir Chowdhury
Dean, School of Business and Information Technology
Sir Sandford Fleming College
599 Brealey Drive
Peterborough, ON
K9J 7B1

Dear Dr. Chowdhury:

Re: New Fleming College Artificial Intelligence Graduate Certificate Program

I am a Senior Data Scientist at Unity Health Toronto, leading the machine learning and artificial intelligence projects in medical imaging at the Data Science and Advanced Analytics team. I am writing this letter to support the *New Fleming College Artificial Intelligence Graduate Certificate Program*.

Artificial intelligence is a very promising and growing field, which has received heavy investments in different sectors, namely healthcare industry. There is a tremendous need for highly skilled professionals in the field with solid understanding of the theoretical concepts as well as practical experience in implementation of the artificial intelligence models.

The *New Fleming College Artificial Intelligence Graduate Certificate Program* is designed to train students based on the theoretical and practical pillars, leading to a successful career path. This program covers fundamentals of artificial intelligence in the first half of the program. The second half of the program is focused more on the applications of artificial intelligence in computer vision, natural language processing, and data analytics. Students will have the opportunity to gain practical experience in their capstone project. This structure is promising and graduates of this program will have great opportunities to start their professional career in industry.

I will be happy to collaborate with this program and support motivated and successful candidates to gain more experience in applications of artificial intelligence in medical imaging.

Sincerely,

Hojjat Salehinejad
Senior Data
Scientist Unity
Health Toronto
email: hojjat.salehinejad@unityhealth.to

Feb. 12 2021

To: Musabbir Chowdhury
Dean, School of Business and Information Technology
Sir Sandford Fleming College
599 Brealey Drive
Peterborough, Ontario,
K9J 7B1

This letter is to support School of Business and Information Technology, Sir Sandford Fleming college, for “Artificial Intelligence Ontario College Graduate Certificate” program that is planned to start Fall 2021.

Artificial intelligence (AI) is a highly demanding and trending topic in industry and there aren't many talented individuals in the field. In other words, having basic understanding of software analysis and development is not enough for a new grad to be successfully hired in these areas. The intention of the proposed AI program is to close this gap by providing necessary knowledge and skills through a one-year program.

The proposed program is a full-time program and most of the courses in curriculum are composed of lecture and laboratory which helps students to practically learn the concepts after understanding them theoretically. It also helps them to work with software tools and technologies that are used in real industrial world. These are the benefits that distinguishes this program from part time or elearning approaches.

As a fellow, worked in both research and industry, I can support this program by contributing in applied projects, research projects and case studies. I also can provide support for e-mentoring students if needed.

I highly support this program and its curriculum and very optimistic in its outcome in educating students that meet the requirements of high demanding artificial intelligence job market in Ontario.

Please do not hesitate to contact me if any future information is needed.

Mehdi Semsarzadeh, Ph.D.
Member of Technical Staff,
Advanced Micro Device (AMD), Canada
Mehdi.semsarzadeh@amd.com



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Musabbir Chowdhury
Dean, School of Business and Information Technology
Sir Sandford Fleming College
599 Brealey Drive
Peterborough, ON
K9J 7B1

February 12, 2021

Subject: Letters of support for Artificial Intelligence program

Dear Mr. Chowdhury

I am writing this letter of support for the "Artificial Intelligence Ontario College Graduate Certificate" program from the School of Business and Information Technology at Sir Sandford Fleming college starting Fall 2021. I am a senior data scientist at Mindbridge AI and I am leading the natural language processing team at Mindbridge AI. I have more than 10 years of experience in Canadian academic and industry projects, and my main fields of interest include artificial intelligence and natural language processing. The Artificial Intelligence program that is offered by the School of Business and Information Technology at Sir Sandford Fleming college includes essential topics in the fields of machine learning, computer vision, and natural language processing and gives the students unique opportunity to learn theoretical and practical aspects of machine learning and use them in real industry projects. Furthermore, the program offers courses in project management and ethics in machine learning. These two courses make the students ready to work in the Canadian industry and give them a great perspective of industry challenges in future.

I genuinely support the new program and confirm my availability to help the school reach its objectives.

kind regards

Farshid Faal

11.7. Appendix VIII: Incremental Costing Summary Details

Program Costing						
Program Name	Artificial Intelligence		Date/Version		2/19/2021	
Credential	Ontario Grad Certificate		School Dean		M.Chowdhury	
Gross Domestic Tuition (per semester)	\$ 1,500.00		Net Domestic Tuition (less financial aid 8%)		\$ 1,380.00	
Gross International Tuition (per semester)	\$ 7,635.00		Net International Tuition		\$ 5,835.00	
WFU (WtxFu)	1		Base Operating Grant (BOG) Allocation per WFU (@ corridor mid point)		\$ 4,150.00	
WFU per semester	0.5		Small Northern Rural (SNR) Grant Enhancement		\$ 272.00	
Domestic Enrolment Projections						
Description	FY01	FY02	FY03	FY04	FY05	
Sem1	7	14	20	20	20	
Sem 2	0	14	16	18	18	
Sem 3	0	0	0	0	0	
Sem 4		0	0	0	0	
Sem 5		0	0	0	0	
Sem 6		0	0	0	0	
Total enrolment	7	28	36	38	38	
Co-op if applicable						
International Enrolment Projections						
Description	FY01	FY02	FY03	FY04	FY05	
Sem1	13	36	40	40	60	
Sem 2	0	29	35	36	54	
Sem 3	0	0	0	0	0	
Sem 4		0	0	0	0	
Sem 5		0	0	0	0	
Sem 6		0	0	0	0	
Total enrolment	13	65	75	76	114	
Co-op if applicable						
Incremental Costing						
Revenues/Source of Funding						
Description	FY01	FY02	FY03	FY04	FY05	Total
Domestic Tuition	9,660.00	38,640.00	49,680.00	52,440.00	52,440.00	\$ 202,860.00
International Tuition	75,855.00	379,275.00	437,625.00	443,460.00	665,190.00	\$ 2,001,405.00
MTCU International clawback	- 4,875.00	- 24,375.00	- 28,125.00	- 28,500.00	- 42,750.00	-\$ 128,625.00
Other (list)						
Co-op funding	-	-	-	-	-	\$ -
	\$ 80,640.00	\$ 393,540.00	\$ 459,180.00	\$ 467,400.00	\$ 674,880.00	\$ 2,075,640.00

Program Delivery Costing						
Description	FY01	FY02	FY03	FY04	FY05	Total
Salaries & Benefits						\$ -
FT Faculty	54,000.00	142,500.00	142,500.00	142,500.00	142,500.00	\$ 624,000.00
PT Faculty	13,110.00	77,395.00	77,395.00	77,395.00	111,205.00	\$ 356,500.00
Program Co-ordinator	25,210.73	25,210.73	25,210.73	25,210.73	25,210.73	\$ 126,053.64
FT Technician	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00	
PT Technician	-	-	-	-	-	\$ -
other direct staffing						\$ -
Course Supplies/Instructional Cost	2,500.00	5,000.00	5,000.00	500.00	5,000.00	\$ 18,000.00
Computer Software & Maintenance/Small Items	16,842.01	16,573.15	27,301.94	27,301.94	27,301.94	\$ 115,320.97
Faculty Travel						\$ -
Equipment Rental and/or Maintenance		2,000.00	2,000.00	2,000.00	2,000.00	\$ 8,000.00
Other-Office Supplies, Hospitality,Duplicating, etc	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	\$ 5,000.00
add rows above this line as needed						
Program Delivery Costing	\$ 127,662.74	\$ 284,678.88	\$ 295,407.66	\$ 290,907.66	\$ 329,217.66	\$ 1,327,874.61
Incremental Academic Overhead - program supports not directly related to delivery						
Description	FY01	FY02	FY03	FY04	FY05	Total
Faculty support costs						\$ -
Travel and Professional Development	3,000.00	6,000.00	6,000.00	6,000.00	6,000.00	\$ 27,000.00
Circulum Quality supports - Review/Renewal			5,000.00	10,000.00	15,000.00	\$ 30,000.00
Other (list and add rows as needed)						\$ -
						\$ -
	\$ 3,000.00	\$ 6,000.00	\$ 11,000.00	\$ 16,000.00	\$ 21,000.00	\$ 57,000.00
Program Development/Investment						
Description	FY00	FY01	FY02	FY03	FY04	FY05
Development		44,000.00	5,000.00			
Equipment						
Consulting costs						
Capital expenditures	-	58,342.62	-	-	-	-
Other (list)						
add rows above this line as needed						
Total program development	\$ -	\$ 102,342.62	\$ 5,000.00	\$ -	\$ -	\$ -
Incremental Costing Summary						
	FY00	FY01	FY02	FY03	FY04	FY05
Incremental Revenues		\$ 80,640.00	\$ 393,540.00	\$ 459,180.00	\$ 467,400.00	\$ 674,880.00
Incremental Costs		\$ 130,662.74	\$ 290,678.88	\$ 306,407.66	\$ 306,907.66	\$ 350,217.66
Net Investment	\$ -	\$ 102,342.62	\$ 5,000.00	\$ -	\$ -	\$ -
NET INCOME/CASH	\$ -	-\$ 152,365.36	\$ 97,861.12	\$ 152,772.34	\$ 160,492.34	\$ 324,662.34
Contribution to Overhead						
Non-Incremental Program Distributions						
Description	FY01	FY02	FY03	FY04	FY05	Total
MTCU Grant	14,525.00	58,100.00	74,700.00	78,850.00	78,850.00	\$ 305,025.00
Dean & Other academic staffing supports	1,935.36	9,444.96	11,020.32	11,217.60	16,197.12	\$ 49,815.36
program revenue	95,165.00	451,640.00	533,880.00	546,250.00	753,730.00	2,380,665.00
program expense	233,005.36	295,678.88	306,407.66	306,907.66	350,217.66	1,492,217.23
Net Contribution to Overhead	-\$ 137,840.36	\$ 155,961.12	\$ 227,472.34	\$ 239,342.34	\$ 403,512.34	\$ 888,447.77
% CTO	-145%	35%	43%	44%	54%	
College Overhead Target	31,404.45	149,041.20	176,180.40	180,262.50	248,730.90	684,961.20

Policy Title:	Conflict of Interest Policy
Policy ID:	#3-344
Manual Classification:	Section 3 – Human Resources
Approved by:	Board of Governors
Revision Date(s):	May 2021
Effective Date:	June 1, 2021 (TBC)
Next Policy Review Date:	May 2024
Contacts for Policy Interpretation:	Vice President, Organizational Effectiveness and Human Resources Director, Employee and Labour Relations Counsel

1.0 - Policy Statement

Sir Sandford Fleming College (“the College”) strives to ensure integrity, transparency, and public confidence at all times. Employees of the College are expected to act in ways that maintain and enhance the reputation and integrity of the College, to conduct themselves in a transparent and accountable manner that would bear closest public scrutiny, and to ensure that they, their spouses/partners, and their dependants do not have private or financial interests that could conflict or appear to conflict with the discharge of the employee’s official duties.

Employees have an obligation to avoid placing themselves in a Conflict of Interest and to proactively disclose any such situation as soon as they recognize the possibility of a Conflict. The College is committed to working with employees to address any such situations in a fair, timely, and consistent manner.

An Employee may request and/or the College will seek appropriate consultation in instances that require Cultural consideration.

2.0 - Purpose

The expectations in this Policy, and the operating procedure, are not intended to question the honesty and good faith of employees. Maintaining Fleming’s strong reputation for integrity requires that employees look beyond the scope of their intentions and motives, and consider how the public may view their actions.

This Policy is intended to:

- Provide a framework for recognizing Conflicts of Interest;

- To communicate a clear expectation that employees will disclose all Conflicts – actual, perceived, or potential – as part of a collaborative effort to maintain the College's and employees' reputation for integrity; and
- Support a process through which disclosures will be assessed quickly, fairly, consistently, and where a resolution is required, with the employee's participation.

This Conflict of Interest Policy is not intended to:

- Restrict the ability of non-full-time College employees to teach or work at other post-secondary institutions; nor to
- Replace the requirements of Article 11.06 of the Academic Employees Collective Agreement.

All examples provided in this document are for illustrative purposes only and do not constitute a comprehensive list of potential conflict of interest scenarios.

3.0 - Definitions and Acronyms

Affiliate

Any person, firm, or organization with which an employee has a personal, financial, employment, or business interest outside of the College.

Examples:

- An employee is in a position to hire a friend with whom they have a close personal relationship without disclosing the relationship and involving their manager in the hire.
- An employee who owns or co-owns a business uses their position at the College to sell products or services to students without seeking prior approval to do so.
- Participating on an interview panel where one of the candidates is a friend or family member.

Not Included:

- Teaching or curriculum development contracts with other post-secondary institutions except where these are secondary employment for full-time College employees and interfere with the employee's ability to perform their duties for Fleming College effectively. Article 11.06 of the Academic Employees Collective Agreement shall continue to apply to employees covered by the collective agreement.

Confidential Information

Any information, in any format, that belongs to the College, is not publicly available, and/or is protected by statute or regulation.

Examples:

- Sharing information that is not publicly available with a friend or neighbour that provides an unfair advantage to that individual in a competitive procurement.

- Helping a colleague or acquaintance prepare for an interview using confidential information not available to other candidates.

**Conflict of Interest
("Conflict")**

A situation where an employee's (or their spouse/partner's or dependant's) private interests, or the employee's outside activities, acceptance of a gift, hospitality, or other benefit, or plans for post-employment will impair, or could reasonably be perceived to impair, the employee's ability to perform their job duties effectively and/or make decisions with integrity, impartiality, honesty, and in the best interest of Fleming College.

A Conflict may be actual, potential, or perceived (i.e. there is no Conflict, but a reasonable person would view the situation as a Conflict in the absence of fully detailed information).

A conflict of commitment, in which an employee engages in outside activities, paid or unpaid, that interfere with the employee's primary obligation and commitment to the College, is a type of Conflict of Interest for full-time employees of the College.

**Conflict of Interest
Committee (COIC)**

Conflict of Interest declarations are reviewed by a committee comprised of the Vice-President, Organizational Effectiveness and Human Resources, the Vice-President, Corporate Finance, and the Senior Management Team member responsible for the employee's area of employment (or their delegates). In addition, the committee may call on legal counsel or other appropriate resources for advice depending on the specific circumstances of the situation being disclosed.

Employee

An individual employed by the College on a full-time, part-time, or contractual basis.

Family Member

Spouse or common-law partner and dependants/children of the employee. The definition of family member includes any person with whom an employee may have a bond that is analogous to the examples listed, including Culturally recognized and/or non-traditional family.

**Personal
Interest(s)**

Any personal, business, commercial, financial, or other affiliation or involvement of an employee that is, could be, or could be perceived as harmful to the financial interest or reputation of the College and/or could interfere with the employee's ability, or perceived ability, to make decisions with integrity, impartiality, honesty, and in the best interests of the College.

Example:

- An employee co-owns a business that competes for College

procurements without disclosing the ownership and recusing themselves from the bid process.

- An employee's spouse is running for political office and the employee actively campaigns for them using their Fleming College affiliation – for example, identifying themselves as a Fleming employee when canvassing for support.

4.0 - Scope

This Policy applies to all employees of the College for the entire duration of their employment, as well as post-employment, as outlined below.

No Employee or former employee may disclose any confidential information that is not already publicly available without seeking explicit permission from the College to do so. It is understood that any such disclosure could have a detrimental effect on the College.

5.0 - General Principles

5.1 Duties and Responsibilities of Employees

College employees shall:

- a) Act honestly, impartially, and with integrity to uphold the highest ethical standards, conducting themselves in a transparent and accountable manner that would bear the closest public scrutiny;
- b) Avoid being involved in any outside activity which would impair their ability to perform their duties for the College and/or their ability (actual or perceived) to make honest and impartial decisions, with integrity, and in the best interest of the College;
- c) Avoid putting themselves in any situation which would create a Conflict of Interest, including any situation where a Conflict may occur due to the personal interests of a family member and/or affiliate; and
- d) On their own initiative confidentially fully disclose any Conflict of Interest, as soon as they recognize the possibility of same.

5.3 Types of Conflicts of Interest

Both the categories and the parameters outlined below are understood not to be a comprehensive list, but to provide guidance and illustration.

i. Outside Activities

The following are examples of outside activities that would violate this Policy. Activities that:

- a) Directly or indirectly competes with the College, with the exception of employment with another post-secondary institution where such employment does not impair a full-time employee's ability to carry

- out their job duties effectively, or otherwise create a Conflict;
- b) Conflicts with the College's legitimate business interests, such as increasing enrolment, providing residence services, expanding educational offerings, etc.;
- c) A conflict of commitment for a full-time employee whose paid or unpaid work or other outside activity interferes with their ability to perform their job functions at the College – for example, part-time employment with scheduling that conflicts with the employee's College work schedule where the employee has not requested and obtained agreement for scheduling restrictions, if applicable. (Note: agreement to scheduling restrictions does not mean that there is no Conflict of Interest – employees must still complete the disclosure process.)
- d) Derives an advantage from the employee's affiliation with the College;
- e) Involves the use of College premises, curriculum, equipment, supplies, staff time, or services, for personal gain, with or without compensation to the College, other than as allowed by Policy 9-904, Intellectual Property and Copyright;
- f) Acquires or disposes of College equipment or property for personal gain or use;
- g) Associates the College's name with any outside activity or undertaking or uses the College's address, telephone number, website, or email address for such purposes; and/or
- h) Associates the College with any political activity at the municipal, provincial, or federal level.

The College recognizes that there can be specific circumstances in which an activity that constitutes a Conflict under this Policy would be acceptable or unavoidable. This should be identified through the disclosure process, allowing the COIC to provide written acceptance of the Conflict. This assumes, however, that the Conflict is disclosed proactively, fully, and in advance or at the earliest recognition.

It is also possible for an outside activity that has been proactively disclosed and found not to be a Conflict to become a Conflict due to a change of circumstance. Should an employee recognize that a previously disclosed situation has changed, they are expected to update their disclosure.

Full-time faculty requests for prior written consent to take any employment, consulting or teaching activity outside the College during periods of assigned workload are governed by the *Academic Employees Collective Agreement* Article 11.06.

Disclosure of all political activity at the municipal, provincial, and/or federal level (e.g. running for office, holding office, campaigning for a candidate in an election process, etc.) using this process is mandatory in all cases in order to ensure expectations are clear and to avoid misperceptions.

ii. **Confidential Information**

No College employee or former employee shall use, seek to use, or disclose any information, in any format, that belongs to the College, is not publicly available, and/or is protected by statute or regulation.

iii. **Gifts, Hospitality, and Other Benefits**

Employees may neither accept nor offer gifts, hospitality, and/or other benefits that could or could reasonably be perceived to influence their judgment and performance of their duties and responsibilities to the College, with the following exceptions:

- a) An Incidental gift, hospitality, or other benefit of nominal value, typically of under \$50, where such a gift or benefit is a common expression of courtesy or within normal standards of hospitality, and will not cause suspicion about the objectivity and impartiality of the employee or compromise the integrity of the College.
- b) When it is not possible to refuse an unauthorized gift, hospitality, or other benefit of greater value, in which case the employee must immediately report the matter to their manager and the manager will direct that such a gift be held by the College, given to charity, or otherwise handled appropriately.
- c) Where the gift, hospitality, or benefit is a Miigwewin gift presented to an Indigenous person as a customary practice for sharing their traditional knowledge.

Accepting a gift from a subordinate or from a student is not acceptable given the inherent power imbalance, regardless of the value of the gift.

iv. **Preferential Treatment**

College employees may neither grant nor accept preferential treatment in relation to any person or organization in any College process, including but not limited to hiring, promoting, procuring or purchasing goods or services, awarding and/or negotiating contracts of any kind.

Any employee in a position to participate in, or directly or indirectly influence, a College process must declare the existence of a relationship immediately on becoming aware of same. The Employee must recuse themselves from the process entirely until the COIC provides direction.

v. Workplace Relationships

Certain types of workplace relationships, inclusive of but not limited to those outlined below, are by their very nature, may be, or may become, a Conflict of Interest.

Any intimate, sexual, and/or close personal relationship between an employee and student, where the employee teaches or has professional contact with a student, is always a Conflict of Interest and is never allowed as consent is not possible where there is a position of trust, power or authority.

Any intimate, sexual, and/or close personal relationship between employees where there is a direct or indirect supervisory relationship, may be a Conflict of Interest. Further, employees should bear in mind that such a relationship could result in allegations of sexual harassment under the *Occupational Health and Safety Act* or the *Ontario Human Rights Code*.

No employee may report to, supervise, or be supervised by a family member or anyone with whom they have a close personal relationship. All employees applying for or being offered a position must declare the existence of such a relationship at the earliest possible time.

In addition, the President, all direct reports to the President, and all Organizational Effectiveness and Human Resources employees must declare the existence of any relationships with College employees who are family members or with whom they are in a close personal relationship at the earliest possible time.

Illustrative examples from all categories are included in *Appendix A*. These examples do not constitute a comprehensive list of all potential Conflict of Interest scenarios and are to be used as examples to assist in thinking through potential Conflicts.

5.4 Guiding Questions

When an employee or manager is unsure whether an action or decision is a Conflict of Interest, it can be helpful to ask the following questions:

- Is there anything about this action or decision, or the implications of the action or decision, that may be or become outside of Policy?
- Is it legal?
- How would a reasonable, objective observer see it?
- Who benefits from this action or decision?
- What is my “gut feeling” telling me?
- How would it look if it was reported on the news or in another public forum?

- Could it negatively affect my reputation or that of the College?
- Could it be perceived as “crossing a line” – for example, using undue influence or benefiting from undue influence?
- Could it put anyone’s health, safety, or wellbeing at risk?
- Would I be reluctant or embarrassed to declare it publicly?
- What would I think if I heard someone else at the College was doing this?

5.5 Mitigating a Conflict of Interest

Declaring a Conflict of Interest is the first, essential step in mitigating a Conflict. Additional mitigation activities may include but are not limited to:

- i. **Restricting** involvement in an activity or process – for example, recusal from vendor evaluation and selection in a procurement process.
- ii. **Relinquishing** a private interest – for example, selling a financial interest in a competing enterprise.
- iii. **Recruiting** a disinterested third party to oversee or carry out a process – for example, accepting a selection panel’s decision without participating.

5.6 Sanctions

Employees who violate this Policy by failing to disclose a Conflict of Interest, refusing to provide information/not cooperating during an assessment, and/or refusing to undertake the mitigation strategies necessary to manage the Conflict, may be subject to appropriate sanctions, up to and including termination of employment with the College.

The College recognizes, however, that non-compliance can be a result of lack of understanding of the Policy and how it applies, particularly when a new Policy is introduced. The College will, therefore, make every effort to educate employees and, absent evidence of intentional non-compliance, will treat any initial non-compliance as a learning opportunity with no disciplinary outcome. Any intentional or repeated violation of the Policy will result in disciplinary sanctions.

5.7 Protection from Reprisals, Retaliation or Threats

It is contrary to this Policy for anyone to retaliate, make reprisals or threaten to retaliate or reprise against an employee who has provided information relating to an alleged Conflict of Interest in good faith, or has sought the enforcement of this Policy through appropriate College channels. An employee who believes they have experience reprisal, retaliation, or threat relating to a Conflict of Interest disclosure may seek assistance directly from the COIC or any member of the COIC. Anyone found to have engaged in reprisals, retaliation, or threats, may be subject to sanctions up to and including termination of employment.

5.8 Employee Awareness

Employees are required to read, review, and confirm understanding of and commitment to comply with this Policy as part of the onboarding package

during the hiring process and annually thereafter. Employees are required to review this Policy and declare any Conflict of Interest annually or whenever circumstances change between annual reviews. The College will provide additional information periodically, as required and/or appropriate. Employees may seek, and are encouraged to seek, additional information or clarification, in confidence, from their Manager, their Human Resources Consultant, or other College official at any time.

6.0 - Related Documents

- *Appendix A – Illustrative Examples*
- OP 3-344 – Conflict of Interest
- Academic Employees Collective Agreement

History of Amendments/Reviews

Approved by Board of Governors XXXX

APPENDIX A: Conflict of Interest - Examples

The following are examples of situations where Conflicts of Interest may arise. In each of these circumstances the minimum obligation on the Employee will be to disclose the Conflict to their manager. Other steps may need to be taken to mitigate any risk to the College or the public interest.

- You have the opportunity to accept a research grant where you or a Family Member hold stock in or have other ties to the company funding the research.
- You are employed by or volunteer with another organization that does business with, is a competitor, a potential competitor, supplier, or customer of the College.
- You engage in an outside activity or undertaking that materially impacts time, energy, and/or attention that should be devoted to the College, or impairs performance of your duties at the College.
- You are involved with a procurement or other business transaction on behalf of the College with a supplier, where you or a Family Member are a principal, officer, representative of the business, or have an interest in the business.
- You or a Family Member have a significant direct or indirect financial interest or obligation (such as a debt due or repayment) to a business doing business with or competing with the College.
- You use Confidential Information for your own benefit or to further your own Personal Interest(s), or for the benefit or Personal Interest(s) of a Family Member or Friend, by selling or making available information to an outside interest.
- You make or conceive, alone or in concert with any other person, an event, concept, and/or program which is within the College's scope of business and attempt to exploit the event, concept, and/or program for a patent or for personal gain other than as prescribed or permitted by the College's *Intellectual Property Policy #2-215*.
- You accept gifts, hospitality, or other benefits from a business having dealings with the College that are not within the limits of what is acceptable, as outlined in this Policy, i.e. gifts, hospitality, and/or benefits that are of a nominal value, infrequent and unsolicited.
- You have a personal relationship with a subordinate or student, which is of such a nature that it might be perceived that the subordinate or student is in a position to benefit or be adversely affected because of the relationship.
- You use College time and resources for personal or private business purposes.
- You participate on or influence a hiring panel for a position for which a Family Member or friend has applied.

- You compete successfully for a supervisory or management role which puts you in a position to make or influence decisions or treatment that unfairly advantage or disadvantage former colleagues, some of whom may have become close personal friends over the course of the period during which you worked as colleagues without having a mitigation strategy in place.
- A family member or friend applies to the College, appeals an academic decision as a student, or otherwise engages in a process in which you exercise influence, directly or indirectly, over the outcome.
- You use your position at the College to solicit clients for your business or that of a family member or friend.

Policy Title:	Harassment and Discrimination Prevention and Response Policy
Policy ID:	3-311
Manual Classification:	Section 3
Approved by:	Board of Governors
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Contacts for Policy Interpretation:	Vice President, Organizational Effectiveness and Human Resources Sr. Consultant, Organizational Development Director, Employee and Labour Relations

1.0 - Policy Statement

Harassment and discrimination are unacceptable and will not be tolerated. Fleming College is committed to preventing harassment and discrimination and creating a safe space for everyone in our College community. The College is expected to be a safe and positive space where members of the College community feel able to work, learn and express themselves in an environment free from harassment and discrimination.

Programs and initiatives designed to benefit equity-seeking groups as identified by the College within the Equity, Diversity, and Inclusion framework, within the College community do not constitute discrimination.

Consistent with the College's Freedom of Speech policy, the College upholds a fundamental commitment to freedom of expression and association for all community members. In exercising those freedoms, all community members are required to respect the rights and freedoms of others, including the right to freedom from harassment and discrimination.

2.0 - Purpose

This Policy, along with the associated Operating Procedure (#3-311-OP), set the College's policy and response procedure with respect to harassment and discrimination. The objectives of the two policy instruments are:

- to enable proactive education and communication to prevent harassment and/or discrimination;
- to ensure that reports of harassment or discrimination taken seriously and that those who report harassment and/or discrimination have their rights respected and are provided with support;

- that the College has an investigation process that protects the rights of individuals;
- that the College holds individuals who have committed an act of harassment and/or discrimination accountable; and
- that the College is in compliance with the *Ontario Human Rights Code* (“the Code”), the *Occupational Health and Safety Act* (“OHSA”), collective agreement provisions, and any other relevant legislation, policies, and procedures.

3.0 - Definitions and Acronyms

All definitions in this Policy include, but are not limited to, the definitions articulated in the [Ontario Human Rights Code](#) and the [Occupational Health and Safety Act](#).

Accommodation	A special arrangement that the College provides to Community Members who have needs related to a <i>Human Rights Code</i> -ground (see “Protected Grounds”) to ensure that they have the same opportunities and benefits as their peers.
Duty to Accommodate	The College has a legal duty to accommodate Code-identified needs up to the point of undue hardship. The process of finding an appropriate accommodation is a shared one (between the College and the person seeking accommodation) that is grounded in respect for the individual’s dignity, recognition of unique needs, and maximization of the individual’s integration and full participation.
College Community	Any person who studies, teaches, conducts research at, or works at the College is a member of the College community (“Community Member”). This includes employees, contractors, members of the Board of Governors, volunteers, visitors, and any other person acting on behalf of or at the request of the College.
College-Initiated Complaint	In some situations, a College Member may raise concerns about harassment and/or discrimination informally, for example, during a conversation with Human Resources, a Student Rights and Responsibilities employee, or a manager. Where such concerns are raised, it may trigger the College’s legal obligations to initiate a response under this Policy even where a formal Complaint is not submitted. This is called a “College-Initiated Complaint.”
Complainant	An individual who files a Complaint alleging a violation of this Policy.
Complaint	A Complaint is a formal verbal or written statement wherein the Complainant alleges that they have experienced, witnessed or are otherwise aware of harassment and/or discrimination (including failure to accommodate (above)) where the behaviour in question would, if substantiated, be in violation of this Policy.

Disability

This term covers a broad range of conditions. “Disability” includes present and past conditions as well as those which are anticipated and perceived. A “disability” can be “invisible”; it may be temporary, permanent or sporadic. The *Human Rights Code* defines “disability” as follows:

- a) any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness and, without limiting the generality of the foregoing, includes diabetes mellitus, epilepsy, a brain injury, any degree of paralysis, amputation, lack of physical co-ordination, blindness or visual impediment, deafness or hearing impediment, muteness or speech impediment, or physical reliance on a guide dog or other animal or on a wheelchair or other remedial appliance or device,
- (b) a condition of mental impairment or a developmental disability,
- (c) a learning disability, or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language,
- (d) a mental disorder, or
- (e) an injury or disability for which benefits were claimed or received under the insurance plan established under the *Workplace Safety and Insurance Act, 1997*; (“handicap”).

Discrimination

An intentional or unintentional action, decision, or practice that results in an adverse impact on an individual or group based, in whole or in part, on a characteristic protected by the Ontario *Human Rights Code* (i.e. “Protected Ground”).

Discrimination can also result when people make stereotypical assumptions about a person based on a “Protected Ground” instead of individually assessing them based on their unique merits, capacities and circumstances.

Discrimination can take on many different forms.

Discrimination can involve actions, decisions or practices that are discriminatory on their face (“**direct discrimination**”). For example:

- A registrar who is reviewing applications is told to screen out applicants who have Asian-sounding names. This is direct discrimination based on race and related grounds.
- A department adopts a policy of not hiring women who plan to start families. This is direct discrimination based on sex and family status.

Discrimination can also involve actions, decision or practices that appear neutral, but disadvantage certain groups of people based on one or more *Code*-protected grounds (“**constructive discrimination**”). For example:

- A faculty member schedules a major exam for Friday noon. This scheduling may adversely impact Muslim students whose faith

requires to attend a congregational prayer at this time. This is “constructive discrimination” based on “creed” (i.e. religion).

- The dorms on campus have a strict “no pets allowed” policy. This policy may adversely impact a student who is blind and who requires a guide dog to assist them in their daily life. This is “constructive discrimination” based on “disability.”

Where an otherwise neutral actions, decision or practice has the potential to adversely impact someone with a *Code*-related need, this need should be accommodated to the point of undue hardship. For example, the exam in the example above should be rescheduled to a different day or time. In the latter example, an exception to the policy should be made for students who require service animals for disability-related needs.

Discrimination can also occur when patterns of behaviour, policies or practices become part of the social or administrative structure of an organization and create a position of relative disadvantage for people identified by Protected Grounds (“**systemic discrimination**”). For example:

- A particular department prefers to hire new staff through word-of-mouth rather than formal postings. The department is largely comprised of White males whose professional circles and connections tend to also be White male-dominant. This means that new hires tend to be from this demographic group as well.
- Because of deeply but unconsciously-held stereotypes, the career counseling office tends to steer Black students into non-academic programs.

Discrimination may take obvious forms, or it may happen in very subtle ways. A *Code*-protected ground needs only to be a factor in an action, decision or practice for it to be discriminatory – it does not have to be the main or only factor. For example:

A security guards stops a Black student in the campus store whom he suspects has stolen a textbook. The student’s race need only be a factor in the security guard’s decision to stop them – it does not need to be the only factor – for it to be considered discrimination.

Harassment and failure to accommodate a *Code*-related need are also types of “discrimination” under this Policy and the Ontario *Human Rights Code*.

Harassment

A course of vexatious (i.e. offensive, embarrassing, humiliating or demeaning) comment or conduct that is known, or ought reasonably to be known, to be unwelcome. As the term “course” implies, harassment typically involves a series of incidents but, in some cases, a single incident that is serious enough may be found to constitute harassment under this Policy.

Behaviour can constitute harassment under this Policy, the *Ontario Human Rights Code* and the *Occupational Health and Safety Act* even if a person does not explicitly object to it or, in some cases, appears to be going along with it.

Harassment can be related to a particular *Human Rights Code*-protected ground (e.g. racial harassment, age-based harassment, etc.) or not. Where the harassment is unrelated to a *Code* identity it is sometimes called “workplace harassment” (employment context only), “psychological harassment” or “personal harassment.” Examples of harassment include:

- Making remarks, jokes or innuendos that demean, ridicule, intimidate, or offend by spoken word or email, or gestures.
- Bullying behaviours.
- Displaying or circulating offensive pictures or materials in print or electronic form.
- Repeated offensive or intimidating phone calls or e-mails.
- Spreading malicious rumours, gossip, or innuendo.
- Excluding or isolating someone socially.
- Intruding on a person's privacy by pestering, spying or stalking.
- Yelling or using profanity.
- Criticizing a person persistently or constantly.
- Belittling a person's opinions.
- Tampering with a person's personal belongings or work equipment.

Harassment is not a reasonable action taken by an employer, supervisor or faculty member relating to the instruction, management and direction of employees or students.

Sexual Harassment

“Sexual Harassment” is harassment that is related to sex, sexual orientation, gender identity and/or gender expression (sometimes called “gender-based harassment.”) Sexual harassment also includes making a sexual solicitation or advance where the person making the solicitation or advance is in a position to confer, grant or deny a benefit or advancement to the person being solicited and the person making the solicitation knows or ought reasonably to know that the solicitation or advance is unwelcome.

Examples include:

- Gender-related comments about a person’s physical characteristics, mannerisms or conforming to sex-role stereotypes

- Paternalism based on gender which a person feels undermines their self-respect or position of responsibility
- Unwelcome physical contact
- Suggestive or offensive remarks or innuendoes about members of a specific gender
- Propositions of physical intimacy
- Gender-related verbal abuse, threats, or taunting
- Leering or inappropriate staring
- Bragging about sexual prowess or questions or discussions about sexual activities
- Offensive jokes or comments of a sexual nature
- Rough and vulgar humour or language related to gender
- Display of sexually offensive pictures, graffiti or other materials including through electronic means
- Demands for hugs, dates or sexual favours
- Invading personal space
- Verbally abusing, threatening or taunting someone based on gender or sexual orientation

In some cases, there may be overlap between “Sexual Harassment” and “Sexual Violence.” For more information, please consult the “Sexual Violence Policy” [Sexual Violence Support Services | Information for students and employees \(flemingcollege.ca\)](https://www.flemingcollege.ca/sexual-violence-support-services)

Poisoned Environment

A hostile, threatening or intimidating environment due to harassing and/or discriminatory comments or conduct that tend to demean a person or group, even if not directed at a specific individual. In some cases, a poisoned environment may result from a serious single incident, comment or action.

Protected Grounds

The Ontario *Human Rights Code* (and this Policy) prohibits discrimination and harassment based on the following personal characteristics (i.e. grounds), or any combination thereof:

- Age
- Creed (religion)
- Sex (including pregnancy and breastfeeding)
- Sexual orientation
- Gender identity
- Gender expression
- Family status (such as being in a parent-child relationship)
- Marital status (including married, single, widowed, divorced, separated or living in a conjugal relationship outside of marriage, whether in a same-sex or opposite-sex relationship)
- Disability (including mental, physical, developmental or learning disabilities)

- Race
- Ancestry
- Place of origin
- Ethnic origin
- Citizenship
- Colour
- Record of offences (criminal conviction for a provincial offence, or for an offence for which a pardon has been received)

This Policy also prohibits harassment or discrimination on the basis of association or relationship with a person identified by one of the above grounds and based on a perception that one or more of the above grounds applies. For the complete definition of each ground, visit: <http://www.ohrc.on.ca/en/ontario-human-rights-code>.

Respondent	An individual about whom a Complaint pertaining to one or multiple allegation(s) of harassment and/or discrimination have been initiated (i.e. an individual who is alleged to have engaged in harassment and/or discrimination).
Student Conduct and Accountability Specialist	An individual responsible for enforcement of the Student Rights and Responsibilities Policy (SR&R) and Sexual Violence Prevention Policy (SVP), as well as to investigate formal complaints involving students that may potentially breach or violate the Harassment and Discrimination policy.
Supervisor	An individual who is formally responsible for a workplace and/or an employee.

4.0 - Scope

It is the responsibility of all members of the College community to uphold the principles of this Policy.

This Policy and related Operating Procedure will apply in cases concerning students, employees, contractors and third-party service providers as well as governors, volunteers, visitors of Fleming College or others:

1. occurring within or affecting people or property within the physical boundaries of the College;
2. occurring on or affecting all College owned or controlled property;
3. occurring using computer and telephone systems, and College and private vehicles being used for College business or for travelling between work and study locations;
4. occurring at College-sponsored events, including while on placement, co-op or College-related trips;

5. occurring with respect to secondary school students involved in dual credit programs and/or attendees of summer camps and similar programs for children and young people;
6. occurring in cyberspace, off-campus or outside normal school and/or working hours which are likely to have an impact on the working, living and/or learning environment at the College.

This Policy and its accompanying Operating Procedure also apply to incidents brought forward under the Student Rights & Responsibilities Policy (#5-506) and/or the Sexual Violence Prevention Policy (#3-343) when the Respondent (that is, the subject of a Complaint) is an employee of the College. Students who wish to make reports regarding inappropriate behaviour by students other than on the basis of any prohibited ground under the Ontario Human Rights Code are referred to College Policy #5-506, *Student Rights and Responsibilities*. Issues related to other violent or threatening behaviour are addressed through College Policy #4-420, [Violence Prevention](#).

Where more than one policy applies due to the mixed nature of the incidents brought forward, the incident should be referred to humanrights@flemingcollege.ca for triage.

5.0 - General Principles

5.1 - College Commitments

The College is committed to:

- a) Creating an environment in which those who disclose an experience of harassment and/or discrimination are heard, their report is taken seriously, and their right to dignity and respect is protected throughout the process of disclosure and response;
- b) Educating the College community about harassment and discrimination, including effectively providing appropriate information and training about the applicable policies and procedures, responding to disclosures, dealing with accommodation requests effectively, and other matters, as appropriate;
- c) Conducting investigations of that are “appropriate in the circumstances” and done in accordance with College Policies, standards and applicable collective agreements, and that promote sensitivity and procedural fairness;
- d) Ensuring that parties have access to an appeals process which is administered in accordance with College Policies, standards and applicable collective agreements, and that promote sensitivity and procedural fairness;
- e) Contributing to the creation of a campus atmosphere in which harassment and discrimination are not tolerated;

- f) Preventing and removing barriers to inclusion on any protected ground under the Ontario Human Rights Code and providing accommodation for needs relating to protected grounds unless to do so would cause undue hardship as defined by the Ontario Human Rights Code; and
- g) Monitoring and periodically updating College policies and procedures to ensure that they remain effective and in line with other existing policies and best practices.

5.2 - Reporting and Responding to Harassment and/or Discrimination

- a) Members of the College community who have experienced, witnessed or are otherwise aware of harassment and/or discrimination are encouraged to come forward to report as soon as they are able to do so. Reports of incidents more than twelve months following the most recent incident will be dealt with as a complaint only after the College assesses whether the passage of time negatively impacts procedural fairness.
- b) Any employee at Fleming College who becomes aware of, or witnesses, an incident of harassment or discrimination has a responsibility to report that behaviour to their Supervisor or to a Human Resources representative.

Other members of the College community are strongly encouraged to report incidents they witness or of which they have knowledge.

When reporting an incident, the individual's name will be kept anonymous to the extent that this is possible. That said, disclosure of the individual's identity or of information which may reveal their identity may be necessary so that the College can fulfill its obligations under law. These individuals will be referred to as "witnesses" throughout the proceedings and not Complainants.

- c) Members of the College community are expected to cooperate fully with this Policy and the Operating Procedure, including participating fully and honestly in any investigation on a matter of which they have relevant knowledge.
- d) Where the College becomes aware of incidents of harassment and/or discrimination that may contravene this Policy in the absence of a specific complaint, the College will take appropriate measures, including investigation, to determine what action may be necessary.
- e) The College may use trained, impartial internal personnel to conduct a fact-finding or investigation or may choose to use an impartial, external third-party in the event of a conflict of interest, lack of sufficient internal resources, a complaint which if substantiated is likely to result in the most

severe consequences for the Respondent(s), a systemic discrimination complaint, or a complaint involving a Vice President, the President, or a member of the Board of Governors.

- f) The College may implement temporary measures or steps to ensure all individuals involved in a complaint feel safe. Introducing temporary measures does not mean a finding has been made. Temporary measures can include things like temporary changes in reporting relationships, restrictions on direct and/or indirect contact between individuals, restrictions on attendance at meetings and other events, or administrative leave pending the outcome of the investigation.

5.3 - Procedural Fairness

- a) The College will promote procedural fairness in dealing with all internal Complaints. Respondents will be given the opportunity to respond to a Complaint with reasonable notice, with full details of the Complaint, and provided with an opportunity to answer to the Complaint(s) made against them before any sanction or disciplinary action is imposed.
- b) Investigations will be completed in the shortest time-frame practically possible and within which procedural fairness can be upheld.

5.4 - Right to Withdraw a Complaint

A Complainant has the right to withdraw a Complaint any stage of the process. However, the College may continue to act on the issue(s) identified in the Complaint in order to comply with its obligations under this Policy and/or its other legal obligations.

5.5 - Protection from Reprisals, Retaliation or Threats

It is a breach of this Policy, subject to sanctions/disciplinary measures, for anyone to retaliate, engage in reprisals, or threaten to retaliate against a Complainant or other individuals for:

- a) having pursued their rights under this Policy;
- b) having participated or co-operated in an investigation process under this Policy; or
- c) having been associated with someone who has pursued rights under this Policy.

The College takes reasonable steps to protect persons from reprisals, retaliation and threats. This may entail, for example, advising individuals in writing of their duty to refrain from committing a reprisal and sanctioning individuals for a breach of this duty. The College may also address the potential for reprisals by putting temporary measures into effect appropriate to the circumstances.

5.6 - Multiple Proceedings

This policy does not preclude a Complainant from initiating an alternative reporting or resolution procedure such as a complaint to the Human Rights Tribunal of Ontario or the Ministry of Labour, or a grievance if available under a collective agreement.

Where alternate proceedings are commenced and there is a formal complaint of harassment and/or discrimination, the College will normally conduct its own independent investigation into the complaint and make its own determination in accordance with this Policy and its related Operating Procedure. Where there is an external investigation in process, the College will cooperate with the investigation. This may involve the College pausing its process to allow the third party to do their investigation. The College will resume its process at the earliest time available.

5.7 - Rights of the Complainant and the Respondent

The Complainant and Respondent have the right to provide supporting documents, identify witnesses, and be notified about the outcome of any determination or appeal decision. A person who reports an incident of harassment and/or discrimination but does not pursue the matter as a Complainant will have the same entitlements as other witnesses and will not be notified of the process outcome or appeal decision.

Complainants, Respondents and other people interviewed as part of the investigation process may attend meetings with a (non-participating) support person and/or with a union representative if applicable and if they choose. The College will consider requests to attend meetings with additional support persons and with legal or other representation on a case-by-case basis, with a view to promoting a fair and expeditious process. The College will still question and expect direct answers from the interviewees.

5.8 - Burden of Proof

A report of harassment and/or discrimination must be substantiated based on the standard of “balance of probabilities”, which means that it must be more likely than not that incident(s) alleged occurred.

5.9 - Substantiated Complaints

Where an investigation process results in an allegation of harassment and/or discrimination being substantiated and a breach of this Policy found to have taken place, the College will determine the appropriate measures to undertake based on the individual circumstances of the case. Appropriate measures can range from education/training, revision of policies, procedures, and/or processes, through a range of proportional disciplinary measures or possible sanctions up to and including restorative justice practices, suspension, expulsion, or termination for cause.

5.10 - Unsubstantiated, Vexatious or Bad Faith Reports

Disclosures or reports that are found, as a result of an investigation to be vexatious or in bad faith - that is, they are made purposely to annoy, embarrass, harass or harm the Respondent - may result in sanctions and/or discipline against the Complainant.

5.11 - College Community Restoration

The College recognizes that individuals who have experienced harassment and/or discrimination, or are part of a group where it has occurred, may experience emotional, mental health, work, learning, or other difficulties. The College will make support available to these individuals.

The College also acknowledges that when a Complaint of harassment and/or discrimination is made, and there is an investigation process, an entire group may be impacted. The College will make an appropriate restoration process available to a group that has been adversely impacted by harassment, discrimination, and/or by the complaint process. The intent of a restoration process is to rebuild trust and effective relationships where the people in the group wish to participate in such a process.

5.12 - Record Keeping

All records resulting from harassment and/or discrimination reports will be kept in a secure central registry and will not be a part of the academic or employment record of the persons involved. Keeping these records will be the responsibility of the Administrator of the Harassment and Discrimination Prevention and Response Policy, under the direction of the Vice President, Organizational Effectiveness and Human Resources. Access to these records will be restricted to authorized College employees in accordance with the College's access to information and protection of privacy policies and procedures, the *Freedom of Information and Protection of Privacy Act*, or as may be required by law. All records will be kept according to College Policy #6-603, *Data Record Retention and Disposition*.

Where sanctions or a disciplinary action are imposed as a result of an investigation, a letter regarding the same will be placed in the employment file or student file of the individual subject to sanctions or disciplinary action.

Statistical information on the number, nature and type of reports will be kept and reports will be filed annually by the Administrator of the Harassment and Discrimination Prevention and Response Policy.

5.13 - Confidentiality

Confidentiality is important to those who have disclosed harassment and/or discrimination. The confidentiality of all persons involved in a report of harassment and/or discrimination must be strictly maintained, and the College will respect the confidentiality of all persons, including the Complainant, Respondent, and witnesses. The College will do this by restricting access to information for individuals without a need for such access, and by providing education and training to those who are regularly involved in the administration

of reports and complaints to ensure they understand their obligation to respect confidentiality.

However, confidentiality cannot be assured in the following circumstances:

- a) An individual is at imminent risk of self-harm;
- b) An individual is at imminent risk of harming another;
- c) There is a concern about the safety or welfare of a child or vulnerable person;
- d) There are reasonable grounds to believe that others in the College or wider community may be at risk of harm;
- e) Disclosure is required to comply with a specific legal obligation to make a report to a third party or otherwise required by law.

5.14 - Education and Training

The College will ensure awareness of this policy by:

- a) Requiring all new hires to review the Policy as part of the onboarding process, along with appropriate training/orientation.
- b) Making the Policy readily available, including posting the full document on the Fleming internal and external websites.
- c) Providing training to all employees, and ensuring those persons with managing, supervising, and leadership responsibilities are aware of their obligations under the Policy and are able to implement its requirements.
- d) Providing training to employees and student groups on the process for responding and addressing incidents of harassment and discrimination, including specifics on bystander intervention.
- e) Publishing guides and other tools to assist members of the College community in meeting their obligations under this Policy, as well as periodic reminder communications.
- f) Identifying and training specific individuals who can provide advice to Community members seeking counsel on Human Rights issues or questions, separate from the reporting/complaints process.

6.0 - Related Documents

- Administrative Operating Procedure #3-311 OP, *Harassment and Discrimination Prevention*
- *Ontario Human Rights Code*, R.S.O. 1990 and related Ontario Human Rights Commission Policies and Guidelines
- *Ontario Occupational Health and Safety Act*, R.S.O. 1990
- *The Accessibility for Ontarians with Disabilities Act*, 2005 and its related Standards and Regulations
- College Policy #1-110, *Honouring the Rights of Indigenous Peoples*

- College Policy #3-343, *Sexual Violence Prevention & Operating Procedure*
- College Policy #5-506, *Student Rights and Responsibilities & Operating Procedure*
- Academic Employees Collective Agreement
- Support Staff Collective Agreement
- Part-time Support Staff Collective Agreement
- College Policy #6-603, *College Data Record Retention and Disposition*
- *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31

7.0 – History of Amendments & Reviews

Approved by Board of Governors February 4, 1998.

Revised to reflect changes in legislation, approved by Board of Governors March 25, 2009.

Full review, new title, approved by Board of Governors June 23, 2010.

Full review, approved by Board of Governors June 26, 2013.

Full review, new format, approved by Board of Governors June 24, 2015.

Revisions approved by Board of Governors December 14, 2016.

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1.0 – Purpose

Harassment and discrimination are unacceptable and will not be tolerated. Fleming College is committed to preventing harassment and discrimination and creating a safe space for everyone in our College community. The College is expected to be a safe and positive space where members of the College community feel able to work, learn and express themselves in an environment free from harassment and discrimination.

This operating procedure sets out the College's response protocols with respect to Complaints of harassment and/or discrimination. These protocols may also apply in the absence of a formal Complaint where a concern of harassment and/or discrimination is raised which triggers the College's obligations under law.

The objectives of this procedure are to ensure that:

- complaints of harassment and/or discrimination are taken seriously and the rights of those who make such reports and/or seek support are respected;
- responses to complaints of harassment and/or discrimination are conducted with procedural fairness and in a timely manner;
- the College holds individuals who are found through an investigation to have committed an act of harassment and/or discrimination accountable; and
- the College is in compliance with the *Ontario Human Rights Code* ("the Code"), the *Occupational Health and Safety Act* ("OHSA"), collective agreement provisions, and any other relevant legislation, policies, and procedures.

Nothing in the Policy or this procedure prevents a Community Member from exercising their right to pursue recourse through alternative processes that may be available to

them, including filing a complaint with the Human Rights Tribunal of Ontario, initiating a grievance, or commencing a legal action.

2.0 – Definitions

All definitions in this Procedure include, but are not limited to, the definitions articulated in the [Ontario Human Rights Code](#) and the [Occupational Health and Safety Act](#), and are found in the Harassment and Discrimination Prevention and Response Policy (#3-311).

3.0 - Procedure

3.1 - Seeking Advice & Information

Every member of the College community who believes they may have witnessed or been subjected to or is otherwise aware of discrimination and/or harassment, is encouraged to seek advice and information on the Policy and procedure, and their options, from their supervisor, manager, Human Resources, or in the case of students, the Office of Student Rights and Responsibilities.

Anyone providing such advice and information to a member of the College community is required to:

- have sufficient training to be able to provide the advice and information;
- maintain a neutral position and may not act as an advocate for the organization, the person seeking advice, or any other party;
- ensure all information is kept strictly confidential unless they are required to disclose the information under a legal obligation; and is
- prohibited from investigating reports of harassment and/or discrimination involving the individual to whom they have provided advice and information.

3.2 - Raising Concerns

There may be situations where a College Member raises a concern about harassment and/or discrimination through, for example, a conversation with Human Resources, a Student Rights and Responsibilities employee, a manager, in an exit interview, in a workplace assessment, or class evaluation, but does not file a formal Complaint. In these cases, depending of the nature and seriousness of the allegation, the College may have an obligation under law to respond, and possibly investigate, the concerns regardless of whether a formal Complaint is made or if the person raising the concerns wants the College to respond/investigate.

In those situations, even if the person who raised the concern elects not to file a Complaint, they may still be asked to participate in an investigation process as initiated by the College (a “College-Initiated Complaint”). Throughout the investigation, the person who raised concerns will be referred to as a “witness”; they are entitled to the same information as other “witnesses” in the investigation process.

3.3 – Timeliness

Complaints of incidents more than twelve months following the most recent incident will be dealt with under the Policy only after the College assesses whether the passage of time negatively impacts procedural fairness. The College may extend timelines under exceptional circumstances, such as in the case of a systemic discrimination complaint, or in the event of a serious allegation of an infraction of law or College Policies, procedures and practices.

3.4 - Options to Resolve a Complaint

Members of the College community who feel there has been a violation of the Policy have three options available to them, depending on the nature of the concern: early resolution, informal resolution, and formal resolution.

a) Early Resolution

The College encourages all members of the College community, whenever possible, to inform the individual that their behaviour is unwelcome and must stop immediately. The College recognizes that this step may not be accessible and/or appropriate for everyone and/or under all circumstances, for example, where there is an imbalance of power between the parties, a reasonable fear of reprisal, or health and safety concerns. Participation in this process is voluntary.

Where this step is not accessible and/or appropriate, the Community Member who is experiencing the behaviour in question is encouraged to seek the College's support under this procedure as a first step.

Supervisors, managers, Student Rights and Responsibilities, and/or Human Resources representatives with the appropriate training and skills may assist the parties to resolve the issue, if requested to do so.

b) Informal Resolution

Informal resolutions are those that seek to resolve a concern without an investigation process. They may include but are not limited to: clarification of the issue(s), facilitated conversations, coaching, reconciliation, workplace restoration, other restorative processes (including culturally appropriate Indigenous practices), and mediation.

Among other things, informal resolutions may be appropriate to address single incidents of unwelcome comment or conduct which are non-serious in nature, disagreements and misunderstandings which would not, if substantiated, constitute a breach of the Policy.

Where a person with concerns elects to proceed via “Informal Resolution,” they can withdraw from the process at any point and submit a formal Complaint.

c) Formal Resolution

- (i) Any member of the College community may report a potential violation of the Policy to a supervisor, manager, or Human Resources representative, or in the case of students, to the Office of Student Rights & Responsibilities. In the event that the alleged policy violation cannot or should not be resolved through early or informal resolution – that is, where a formal investigation process is required:
 - Human Resources will lead the process for all Complaints made by employees and where an employee is the Respondent (the person who is alleged to have engaged in the behaviour in question). Where a student is involved in a Complaint made by or against an employee, the Office of Student Rights and Responsibilities will assist.
 - Student Rights and Responsibilities will lead the process where a student makes a Complaint about another student.

(ii) Written Complaint

Where a formal resolution is required, the individual raising the concern is encouraged to file a formal Complaint and to do so in writing, if possible, indicating:

- a) What happened – a description of the events or situation
- b) When – dates and times of the events or incidents
- c) Where the event(s) or incident(s) occurred
- d) Who saw it happen – names of witnesses

Where needed, the College will provide assistance in creating the written complaint. A written Complaint may also be submitted via email to humanrights@flamingcollege.ca.

Where the person raising the concern is not willing to submit a formal Complaint or to participate in the process as a Complainant, the College may elect to pursue the concerns raised as a “College-Initiated Complaint” (i.e. the College initiates its own investigation based on the information provided

by the person who raised the concerns, who will then be considered to be a “witness.”)

(iii) Intake

When a Complaint is received, an appropriately qualified College administrator will assess it to:

- Ensure that it relates to allegations which, if true, would constitute harassment and/or discrimination under the Policy;
- Refer the Complaint elsewhere if it is outside of this Policy’s jurisdiction (e.g. relates to a Conflict of Interest breach – not harassment and/or discrimination);
- Liaise with other offices where appropriate and where there is an overlap of issues (e.g. Complaint includes allegations of sexual harassment and sexual violence).
- Ensure that it is timely (see “Timeliness” (3.3.)) and, if it is not, assess whether it would be appropriate (i.e. procedurally fair) to proceed.
- Determine the scope of the investigation.
- Determine if an investigation would be appropriate in the circumstances.

(iv) Temporary Measures

When submitting a Complaint or at any stage of the process, an individual may request the College implement temporary measures or steps to ensure they feel safe during the formal resolution process. The College may implement temporary measures to protect the parties or witnesses (in limited cases) at any stage of the process even without a request. Introducing temporary measures does not mean a finding has been made. Temporary measures can include things like temporary changes in reporting relationships, paid leaves, restrictions on direct and/or indirect contact between individuals, restrictions on attendance at meetings and other events, or, if appropriate, administrative leave pending the outcome of the investigation. Temporary measures are identified as required on a case-by-case basis and reflect the principle that an individual is not penalized for making a complaint or otherwise participating in the investigation process.

(v) Right to Withdraw a Complaint/Right to Investigate

An individual has the right to withdraw a Complaint at any stage of the process. However, the College may continue to act on the issue(s) identified in the Complaint by, for example, pursuing the matter as a “College-Initiated Complaint”, in order to comply with its obligations under the Policy and/or its other legal obligations.

3.5 - Investigation Process

a) Appropriate in the Circumstances

Once the Complaint has been assessed, it will be referred for an investigation that is “appropriate in the circumstances”. An appropriate investigation is one which is timely, fair, and which would address all relevant issues.

What is “appropriate under the circumstances” may vary from case-to-case depending on the seriousness of the allegations involved and their relative complexity.

b) Appointment of an Investigator

The College will appoint an Investigator. The College may use trained internal personnel to conduct an investigation or may choose to use an external third-party in the event of a conflict of interest, lack of sufficient internal resources, a complaint which if substantiated is likely to result in the most severe consequences for the Respondent(s), a systemic discrimination complaint, or a complaint involving a Vice President, the President, or a member of the Board of Governors.

The Investigator must not be the alleged harasser and must not be under direct control of the alleged harasser. The Investigator must be competent and trained in investigations and able to conduct an objective investigation.

c) Investigation Process

The steps in an investigation may vary depending on what is “appropriate in the circumstances.”

(i) Interviews

The investigator will meet with and conduct one or more thorough interviews with the:

- Complainant
- Respondent
- Witnesses (including, the person who raised the concerns where the investigation is in response to a “College-Initiated Complaint” who potentially have knowledge relevant to the event(s) in question.
- The target of the harassment and/or discrimination (where this person is different from the Complainant or the witness who raised the concerns leading to the “College-Initiated Complaint”).

All interviews must be conducted separately. The Respondent must be given the opportunity to respond to the specific allegations (as provided to them prior to the interview date).

(ii) Timelines

Simple and straightforward investigations (e.g. involving one Complainant, one Respondent, very few allegations, witnesses and documents) should be entirely completed within 90 calendar days. More complicated investigations (e.g. involving multiple Complainants and/or Respondents, multiple allegations, witnesses and documents) and those where exceptional circumstances exist will require more time.

(iii) Communication

The investigator will provide the Complaint(s) and Respondent(s) with regular updates on the investigation's progress.

(iv) Respondent Interview

The Respondent will be advised of the Complaint at the outset of the investigation process. They will receive a detailed list of allegations once the investigator has met with the Complainant and/or others with first-hand knowledge of the incidents alleged. This should be provided to the Respondent a minimum of three College working days in advance of their meeting with the investigator. In most cases, the Respondent will be provided with the name(s) of the Complainant(s).

(v) Other Evidence

Both the Complainant and the Respondent have the right to produce any relevant documentation, evidence, or other information, and identify witnesses to the investigator in response to any allegation(s).

The Investigator will impartially collect and review evidence and interview those witnesses they deem relevant in relation to the Complaint.

(vi) Community Member Obligation

All Community members are expected to meet with an investigator if requested to do so and to participate in good faith.

(vii) Support Persons

Anyone participating in an investigation under this procedure may be accompanied by a support person for emotional / moral support. The support

person cannot be an individual who may have relevant information to share regarding the Complaint and the investigation itself, and who may be called upon as a witness during the investigation. The support person may not offer information or opinions during the interview, speak for or advocate on behalf of the individual being interviewed, or behave in a disruptive manner. Should any of these circumstances occur, the investigator may reschedule the interview and require the interviewee to have an alternative support person accompany them to the rescheduled interview. The individual being interviewed may choose to continue the interview without a support person, but will not be required to do so.

(viii) Confidentiality

All those who meet with an investigator, including any support persons, are required to keep confidential the following:

- The fact that a Complaint was made (or initiated by the College)
- The fact of the investigation and any knowledge or speculation on parties involved in the investigation
- The fact that they have been asked to meet with an investigator
- The substance of their conversations with the investigator (i.e. the investigator's questions and their answers)

People who are asked to participate in the investigation process must refrain from asking others about their own participation in the investigation (e.g. if they have been contacted by the investigator).

Failure to maintain confidentiality during this process could compromise the integrity of the investigation and could constitute a breach of the Policy which could be subject to sanction/disciplinary consequences.

For their part, the investigator will not disclose identifying information unless it is necessary to conduct the investigation.

(ix) Determination

The investigator will, having reviewed all of the evidence, determine, on a balance of probabilities, whether the incidents in question took place as alleged. If the allegations are "substantiated," the investigator will assess whether or not a violation(s) of the Policy occurred.

(x) Frivolous, Vexatious, Bad Faith Complaints

If during the course of the investigation the investigator believes the Complaint is frivolous (it does not have any serious purpose or value; is of little or no weight, worth, or importance), or is vexatious (instituted without

sufficient grounds and only to cause annoyance) or was made in bad faith (purposely to annoy, embarrass, harass or harm), the Investigator will consult with the VP, OEHR to determine next steps.

d) Investigation Report

- (i) The investigator will prepare a confidential report which typically includes the following information:
 - The nature of the Complaint, including the protected ground(s) involved (where applicable) and the specific allegations.
 - The Complainant(s)
 - The Respondent(s)
 - The Witness(es)
 - An overview of the investigator's mandate and scope
 - An overview of the investigator's process, including, steps taken, relevant dates
 - An assessment of credibility and/or reliability, where appropriate
 - Evidence gathered as part of the investigation (i.e. interviews, documents)
 - Findings of fact, based a balance of probabilities, as to whether or not the allegations are substantiated
 - An analysis with respect to whether the substantiated allegation(s) meet the threshold of a Policy violation and/or an; and
 - (If applicable), whether or not unsubstantiated allegations were made in bad faith
- (ii) An appropriately qualified College administrator provides both the Complainant and the Respondent with a summary of findings including, for each allegation, whether it was substantiated or unsubstantiated, determined to violate the Policy or not, or determined to be in bad faith. Witnesses are not entitled to any communication of investigation outcomes.
- (iii) Either party (Complainant or Respondent) may appeal the outcome of an investigation, in writing, to the President with a copy to the VP, OEHR, within ten (10) College working days of being advised of the outcome of the investigation in writing. The appeal must provide evidence of either:
 - a. Procedural unfairness and/or investigator bias; or
 - b. New information or extenuating circumstances not available or known at the time of the investigation (excluding information previously intentionally withheld).The decision to accept an appeal will be communicated to affected parties in either case and within ten (10) working days of receipt of the appeal. Appeal decisions are final.

- (iv) The complete investigation report is submitted to the VP, OEHR and to the senior executive in the Respondent's reporting line, or their designate, if appropriate.

3.5 - Outcomes of an Investigation

a) Consequences for Policy Violation

If the investigation determines that the Harassment and Discrimination Prevention and Response Policy has been violated, the VP, OEHR and the Vice President/Senior Management Team member of the employee found to have violated the Policy will determine the appropriate consequences for the individual.

Policy violations include:

- Harassment and/or discrimination as defined in the Policy and relevant legislation on which the Policy is based
- Complaints found to be frivolous, vexatious, or made in bad faith
- Reprisals, retribution, or threat of either/both in relation to a Complaint
- Breaches of confidentiality related to a Complaint

Consequences may include but are not limited to:

- An apology
- Counselling
- Education and training
- Verbal or written reprimand
- Behaviour Contract
- Restorative Justice Practices
- Community Service
- Restitution or Fines
- Suspension or Expulsion
- Removal or transfer from residence
- Transfer
- Suspension without pay (with the approval of the President)
- Termination of employment (with the approval of the President)

In determining the appropriate proportional consequences, the College will take into account the nature of the violation of the Policy, its severity, whether an individual has previously violated the Policy or any other College Policy, the degree to which the individual has taken accountability for and indicated understanding and remorse for their actions, the impact of the Policy violation on the victim(s) and others, as well as the reputation of the College itself, along with any extenuating circumstances.

Regulatory/Professional Licensing Bodies

When a member of the College is functioning in a capacity that requires registration in a professional association (that is, social worker, nurse, etc.) and a finding has been made against them, if the College deems at its sole discretion that it is required to report the incident by a regulatory / professional licensing body, a report will be filed and the relevant findings will be communicated to the professional licensing body.

b) Broader Implications – Removal of Barriers, Education

The College is committed to preventing harassment and discrimination and creating an inclusive and welcoming environment for all. If a Complaint (whether it is substantiated or unsubstantiated) reveals any broader issues that the organization should address, the College will take steps to do so. This could include, for example, removal of specific barriers identified in the workplace or a need for further training on particular human rights issues.

c) College Community Restoration

The College will undertake a timely and appropriate restoration activity with any group, team or department adversely affected by a complaint process or investigation, regardless of findings. The College may use internal or external facilitation and support and, where appropriate, will solicit input from affected parties and/or individuals with both expertise and lived experience as members of groups affected by protected grounds, particularly in regard to Indigenous restorative/healing processes,

4.0- Records and Reporting

Pursuant to the Freedom of Information and Protection of Privacy Act (FIPPA), the College will maintain secured, confidential records relating to each process brought forward under the *Harassment and Discrimination Prevention and Response Policy*, including internal and external investigations, and informal resolution options. Records will be maintained for seven (7) years from the date of resolution, then destroyed. In the event of a recurrence, if the resolution is breached, or if there is an external action (for example, an application to the Human Rights Tribunal of Ontario or a court case), the seven-year period will be extended as required.

Access to files will be determined at the discretion of the VP, OEHR, or as may be required by law or another proceeding. Access by third parties to any records collected or created during the course of the investigation will be in accordance with FIPPA. The College will protect personal information contained in such records in the manner and to the extent required by FIPPA.

Statistical information on the number, nature and type of complaints will be kept and reports made to the Senior Management Team annually.

5.0 – Confidentiality

The College is committed to ensuring an environment and culture of confidentiality where people feel safe to report and seek support for their concerns. Complainants, Respondents, witnesses, and support persons must keep the details of any case confidential, in order to preserve the integrity of the decision-making, resolution, and investigative processes.

Information relating to a complaint will be kept confidential to the extent possible. During the course of the investigation, information will be disclosed to the extent necessary to properly conduct the investigation and as may be required by this policy and the law. In doing so, the College will ensure compliance with FIPPA.

a) Limits of Confidentiality

There are limits or exceptions to confidentiality during the resolution process(es). Confidentiality cannot be maintained when:

- An individual is at risk of life-threatening self-harm
- An individual is at risk of harming others
- There is an assessed risk to the safety of the College and/or the broader community
- Disclosure is required by law
- Disclosure is required as part of a proceeding or alternate process

b) Breach of Confidentiality

Breaches of confidentiality can impact the integrity of resolution process and are therefore considered a violation of the Policy to be addressed immediately. Breaches of confidentiality may be subject to sanctions, up to and including dismissal for just cause, depending on severity and impact.

6.0 – No Reprisal, Retaliation or Threats

Persons who make a complaint, as well as anyone else who is involved, should not face negative consequences for taking part in the complaint process. In other words, they should be free from reprisal, retaliation, or threat of either. Protection from reprisal covers:

1. Complainants
2. Witnesses
3. Advisors
4. Representatives of complainants and witnesses
5. Investigators
6. Decision makers/management.

A person who believes that they have been subjected to reprisal, retaliation, or threats are able to file a complaint under this procedure. Any allegation of reprisal, retaliation, or threat related to a Complaint and/or a resolution process under the Policy and this procedure will be subject to investigation and, if substantiated, will be subject to sanctions up to and including summary dismissal for cause, depending on the severity and impact.

7.0 – Complaints Involving the College President or Board of Governors Member

In recognition of the imbalance of power when a College Community member makes a Complaint involving the College President or a member of the Board of Governors, all such Complaints are to be made in writing to the Board Chair or their designate, and all investigations arising from such Complaints will be carried out by an external Investigator appointed by the Board. The Board may request such support and assistance as is required from the Vice-President, OEHR or other College staff, as appropriate. Other than these provisions, the Policy and this procedure will apply.

8.0 – Diversion from Procedure

Where appropriate and compatible with the College's obligations under law, the College President or their designate may take action which diverges from this procedure when there is reasonable cause to believe that:

- a) The safety of a Community member is at risk; and/or
- b) A potential violation of the Policy is deemed so serious that it is imperative immediate action be taken; and/or
- c) Other forms of action will be necessary to ensure the College meets its legal obligations.

A confidential written rationale for the diversion from procedure will be maintained on file.

9.0 – Related Documents

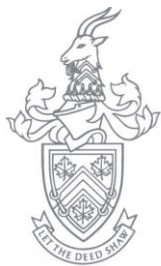
- College Policy #3-311, *Harassment and Discrimination Prevention and Response Policy*
- The Canadian Charter of Rights and Freedoms
- The Criminal Code of Canada
- Ontario Human Rights Code, R.S.O. 1990
- Ontario Human Rights Commission Policy on Competing Human Rights
- Ontario Human Rights Commission Policy on Preventing Sexual and Gender-Based Harassment

- Ontario Occupational Health and Safety Act, R.S.O. 1990
- Ontario Ministry of Labour Code of Practice to Address Workplace Harassment Under Ontario's Occupational Health and Safety Act
- The Accessibility for Ontarians with Disabilities Act, 2005 and its related Standards and Regulations
- Ontario Employment Standards Act, 2000
- Ontario Pay Equity Act, R.S.O. 1997
- Freedom of Information and Protection of Privacy Act, R.S.O 1990
- Academic Employees Collective Agreement
- Support Staff Collective Agreement
- College Policy #3-343, *Sexual Violence Prevention*
- Administrative Operating Procedure #3-343 OP, *Sexual Violence Prevention*
- College Policy #4-412, *Safety*
- College Policy #4-420, *Violence Prevention*
- Administrative Operating Procedure #4-420 OP, *Violence Prevention*
- College Policy #5-506, *Student Rights and Responsibilities*
- Administrative Operating Procedure #5-506 OP, *Student Rights and responsibilities*

9.0 – History of Amendments & Reviews

Approved by ELT June 2, 2015.

Full review undertaken, approved by ELT November 5, 2016.



Board of Governors

Briefing Note



FLEMING

Topic: Internally Restricted Net Assets
Report To: Public Board Meeting
Endorsed by Finance and Audit Committee on May 17, 2021 for final submission to the Board of Governors
Meeting Date: May 26, 2021
Prepared By: Angie Sims, Director, Financial Services and Controllershship
Drew Van Parys, Acting Vice-President, Corporate Services and CFO

Recommendation

That the Board of Governors of Sir Sandford Fleming College approve a decrease in Internally Restricted Net Assets of \$1,010,000 for the purposes of residence and other direct student services, offset by an increase for future Sports Field Complex capital repairs and improvements of \$10,000, effective March 31, 2021.

Overview

The Statement of Financial Position as well as the Statement of Operations is comprised of the College's general operations as well as its ancillary operations. A portion of the ancillary operations is included in the Internally Restricted Net Assets, which requires Board of Governors approval to increase or decrease. The Sports Field Complex agreement between the City of Peterborough and the College requires annual contributions to a reserve fund for future capital repairs and improvements and is also included in the Internally Restricted Net Assets.

As at March 31, 2020, the Internally Restricted Net Assets included \$ 1,010,000, representing cumulative residence surplus from prior years adjusted for College funds invested in residence capital assets, as well as \$60,000 representing the Sports Field Complex reserve.

During the 2020-2021 fiscal year, the residence operations required the utilization of \$1,010,000 to offset the significant loss as incurred during the year. The Internally Restricted Net Assets for the residence will be rebuilt in the future, should the current year internal restriction reduction be approved.

The Sports Field Complex became operational during the 2014-2015 fiscal year and, as part of the agreement with the City of Peterborough, a minimum of \$10,000 per year is to be restricted by both parties for future capital repairs and improvements. The balance of Internally Restricted Net Assets will be \$70,000 at March 31, 2021 with the additional \$10,000 to be restricted in 2020-2021. The City of Peterborough's cumulative contribution of \$70,000 is in the liabilities at March 31, 2021 and will be transferred to revenue if/when future expenses are incurred.

Risks and Considerations

☐ External Environment ☐ Internal Environment ☐ Financial ☐ Human Resources
☐ Information Technology ☐ Legal ☒ Operational ☐ Strategic ☐ N/A

The agreement sets out \$10,000 as the minimum annual contribution and allows the joint committee to increase the annual contributions in the future if necessary. The reserve is monitored in relation to the condition of the Sports Field Complex on an ongoing basis.

Supporting Documentation

Include the file names of any supporting documentation below:

N/A



Board of Governors

Briefing Note



FLEMING

Topic: 2020- 2021 Draft Audited Financial Statements
Report To: Public Board Meeting
Endorsed by Finance and Audit Committee on May 17, 2021 for final submission to the Board of Governors
Meeting Date: May 26, 2021
Prepared By: Angie Sims, Director, Financial Services and Controllershship
Drew Van Parys, Acting Vice-President, Corporate Services and CFO

Recommendation

That the Board of Governors of Sir Sandford Fleming College approve the 2020-2021 draft Audited Financial Statements indicating Net Assets as at March 31, 2021 of \$38,901,772.

KPMG will remove "Draft" and issue final Audited Financial Statements once approval has been received. These statements will then be provided to the Ministry of Colleges and Universities (MCU); the statements also form part of the College's Annual Report and will be posted to the College website.

Overview

A report to recommend approval of the Audited Financial Statements for 2020-2021, as presented in the Finance and Audit Committee Meeting of May 17, 2021, wherein the Committee received and reviewed the Audited Financial Statements for 2020-2021 and recommend for Board approval.

The Ministry Operating Procedure Audited Financial Statements (under the Governance and Accountability Policy Framework) requires each College to have available, to the public, an annual report including Audited Financial Statements at the end of each fiscal year.

The 2020-2021 fiscal year resulted in a decrease in total net assets of \$3,305,892, due to a net loss of \$3,361,057, less additional endowment contributions of \$ 28,164 and decrease of \$27,000 in the market value of the derivative liability during the year.

For the fiscal year ended March 31, 2021, the financial health indicator results are all within the acceptable Ministry/College benchmark targets with exception of the ratios directly related to the year-end deficit. This was fully anticipated and expected by the Ministry. The specific ratio results are as follows:

Ratio	Benchmark	Actual March 31/21	Pass/Fail
Annual Surplus	> \$0	(\$ 3,361,056)	Fail
Accumulated Surplus	> \$0	\$32,223,479	Pass
Quick Ratio	>= 1.0	2.12%	Pass
Total Debt to Asset Ratio	<= 35%	25.74%	Pass
Debt Servicing Ratio	<= 3%	1.33%	Pass
Net Assets to Expense Ratio	>= 60%	89.52%	Pass
Surplus (Deficit) to Revenue Ratio	>= 1.5%	(2.63%)	Fail

Supporting Documentation

Include the file names of any supporting documentation below:

- 2020-2021 Audited Financial Statements, draft 5, dated May 14, 2021

Financial Statements of

**SIR SANDFORD FLEMING
COLLEGE OF APPLIED ARTS
AND TECHNOLOGY**

And Independent Auditors' Report thereon

Year ended March 31, 2021

INDEPENDENT AUDITORS' REPORT

To the Board of Governors of Sir Sandford Fleming College
of Applied Arts and Technology

Opinion

We have audited the financial statements of Sir Sandford Fleming College of Applied Arts and Technology (the Entity), which comprise:

- the statement of financial position as at March 31, 2021
- the statement of operations for the year then ended
- the statement of changes in net assets for the year then ended
- the statement of remeasurement gains and losses for the year then ended
- the statement of cash flows for the year then ended
- and notes to the financial statements, including a summary of significant accounting policies

(Hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Entity as at March 31, 2021, and its results of operations, its changes in net assets, its remeasurement and gains and losses and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the ***"Auditors' Responsibilities for the Audit of the Financial Statements"*** section of our auditors' report.

We are independent of the Entity in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Entity's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Entity's financial reporting process.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group Entity to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

DRAFT

Chartered Professional Accountants, Licensed Public Accountants

Vaughan, Canada

	2021	2020
Liabilities, Deferred Contributions and Net Assets		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 20,543,828	\$ 23,754,375
Accrued payroll and employee benefits	11,601,021	11,100,335
Ministry of Colleges and Universities		
grants received in excess of entitlements	688,058	1,371,546
Deferred revenue	19,658,293	20,319,805
Current portion of long-term debt (note 4)	1,328,049	1,285,385
	53,819,249	57,831,446
Long-term debt (note 4)	11,281,258	12,609,308
Deferred derivative liability (note 10)	62,000	89,000
Post-employment benefits and compensated		
absences (note 5)	3,750,000	3,703,000
	15,093,258	16,401,308
Deferred contributions:		
Bursaries and other	2,874,992	2,880,859
Deferred capital contributions (note 3)	85,338,755	85,450,187
	88,213,747	88,331,046
Net assets:		
Unrestricted:		
Operating	19,501,700	19,945,526
Post-employment benefits and compensated		
absences	(3,750,000)	(3,703,000)
Vacation pay accrual	(5,807,000)	(5,409,000)
	9,944,700	10,833,526
Invested in capital assets (note 6)	22,208,778	23,681,009
Internally restricted (note 7)	70,000	1,070,000
Restricted for endowments (note 8)	6,740,293	6,712,129
	38,963,771	42,296,664
Accumulated remeasurement losses	(62,000)	(89,000)
	38,901,771	42,207,664
Commitments (note 13)		
	\$ 196,028,025	\$ 204,771,464

See accompanying notes to financial statements.

On behalf of the Board of Governors:

_____ Chair of the Board of Governors

_____ President

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Statement of Operations

Year ended March 31, 2021, with comparative information for 2020

	2021	2020
Revenue:		
Student tuition	\$ 38,810,182	\$ 57,766,447
Government grants and reimbursements	68,641,863	50,332,355
Other (note 9)	14,913,148	21,064,293
Ancillary operations	1,114,339	5,639,281
Amortization of deferred capital contributions (note 3)	4,478,093	4,498,764
	127,957,625	139,301,140
Expenditures:		
Salaries	65,843,910	72,088,276
Benefits	14,466,634	14,981,698
Transfer payments - Service System Management	11,202,713	—
Contract services and other	9,943,700	14,047,493
Amortization of capital assets	7,662,653	7,573,732
Instructional support	5,328,444	7,388,292
Plant and security	5,053,843	5,355,104
Bursaries	3,046,928	2,555,046
Professional fees and insurance	2,788,899	3,264,076
Utilities	2,616,171	3,176,437
Rental and taxes	1,106,186	1,446,362
Advertising	596,143	1,449,665
Equipment maintenance	516,556	751,424
Interest on long-term debt	413,477	408,304
Other	374,845	486,201
Travel and professional development	357,580	2,148,080
	131,318,682	137,120,190
Excess (deficiency) of revenue over expenditures	\$ (3,361,057)	\$ 2,180,950

See accompanying notes to financial statements.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Statement of Changes in Net Assets

Year ended March 31, 2021, with comparative information for 2020

					2021	2020
	Unrestricted	Invested in capital assets (note 6)	Internally restricted (note 7)	Restricted for endowments (note 8)	Total	Total
Net assets, beginning of year	\$ 10,833,526	\$ 23,681,009	\$ 1,070,000	\$ 6,712,129	\$ 42,296,664	\$ 40,031,576
Excess (deficiency) of revenue over expenditures	(178,402)	(3,182,655)	—	—	(3,361,057)	2,180,950
Endowment contributions	—	—	—	28,164	28,164	84,138
Net change in investment in capital assets (note 6(b))	(1,710,424)	1,710,424	—	—	—	—
Interfund transfers (note 7)	1,000,000	—	(1,000,000)	—	—	—
Net assets, end of year	\$ 9,944,700	\$ 22,208,778	\$ 70,000	\$ 6,740,293	\$ 38,963,771	\$ 42,296,664

See accompanying notes to financial statements.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Statement of Remeasurement Gains and Losses

Year ended March 31, 2021, with comparative information for 2020

	2021	2020
Accumulated remeasurement losses, beginning of year	\$ (89,000)	\$ (86,000)
Unrealized gain (loss) on swap derivatives	27,000	(3,000)
Accumulated remeasurement losses, end of year	\$ (62,000)	\$ (89,000)

See accompanying notes to financial statements.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Statement of Cash Flows

Year ended March 31, 2021, with comparative information for 2020

	2021	2020
Cash provided by (used in):		
Operating activities:		
Excess (deficiency) of revenue over expenditures	\$ (3,361,057)	\$ 2,180,950
Items not involving cash:		
Amortization of capital assets	7,662,653	7,573,732
Amortization of deferred capital contributions	(4,478,093)	(4,498,764)
Gain on disposal of capital assets	(1,905)	(35,605)
	(178,402)	5,220,313
Change in accruals for post-employment benefits and compensated absences	47,000	(284,000)
Change in non-cash operating working capital:		
Ministry of Colleges and Universities receivables	(2,856,087)	712,889
Accounts receivable	689,943	755,381
Inventory and prepaid expenses	115,931	(784,068)
Accounts payable and accrued liabilities	(3,210,547)	(1,745,262)
Accrued payroll and employee benefits	500,686	(1,729,080)
Ministry of Colleges and Universities grants received in excess of entitlements	(683,488)	(711,259)
Deferred revenue	(661,512)	1,052,735
	(6,236,476)	2,487,649
Capital activities:		
Deferred capital contributions	4,366,661	2,577,853
Purchase of capital assets	(3,049,640)	(5,802,502)
Proceeds on disposal of capital assets	3,391	43,719
	1,320,412	(3,180,930)
Financing activities:		
Deferred contributions, bursaries and other	(5,867)	(547,108)
Endowment contributions	28,164	84,138
Issuance of long-term debt	—	5,000,000
Principal payments on long-term debt	(1,285,386)	(1,150,426)
	(1,263,089)	3,386,604

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Statement of Cash Flows (continued)

Year ended March 31, 2021, with comparative information for 2020

	2021	2020
Investing activities:		
Net change in investments	12,360,610	261,230
Net change in restricted investments for endowments, bursaries and other	(22,297)	462,970
	12,338,313	724,200
Increase in cash	6,159,160	3,417,523
Cash, beginning of year	21,294,367	17,876,844
Cash, end of year	\$ 27,453,527	\$ 21,294,367
Supplemental cash flow information:		
Interest paid	\$ 413,477	\$ 408,304
Interest received	1,516,279	995,520

See accompanying notes to financial statements.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements

Year ended March 31, 2021

Sir Sandford Fleming College of Applied Arts and Technology (the "College") was established as a corporation without share capital, as set out in the Ontario Colleges of Applied Arts and Technology Act. The Corporations Act governs the corporate affairs of the College and became effective April 1, 2003. The College is principally involved in providing post-secondary educational services. Under the Income Tax Act (Canada), the College is considered a registered charity and, accordingly, is exempt from income taxes, provided certain requirements of the Income Tax Act (Canada) are met.

1. Significant accounting policies:

(a) Basis of accounting:

These financial statements are the representation of management and have been prepared in accordance with Canadian public sector accounting standards for government not-for-profit organizations ("Government NPOs"), including the 4200 Series of Standards, as issued by the Public Sector Accounting Board ("PSAB").

(b) Revenue recognition:

The College follows the deferral method of accounting for contributions and other revenues. Restricted contributions are recognized as revenue in the year in which the related expenses are incurred. Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured. Endowment contributions are recognized as direct increases to net assets.

Restricted investment income is recognized as revenue in the year in which the related expenses are incurred. Unrestricted investment income is recognized as revenue when earned.

Other revenues are recognized when received or receivable and the amount can be reasonably estimated and collection is assured.

The College defers the portion of the revenue related to the delivery of programs and courses that takes place after March 31.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

1. Significant accounting policies (continued):

(c) Capital assets:

Purchased capital assets are recorded at cost. Contributed capital assets are recorded at fair value at the date of contribution. Repairs and maintenance costs are charged to expenditures. Betterments which extend the estimated life of an asset are capitalized. Capital assets are amortized on a straight-line basis using the following annual rates:

Buildings	2-1/2%
Site improvements	10%
Furniture and equipment	20%
Computer equipment	33-1/3%
Residence furniture	6-2/3%
Fibre optic system	5%
Enterprise Resource Planning System	14%
Leasehold improvements	Over term of lease
Sport and Wellness Centre	Over term of the land lease
Sports fields	5%

Construction in progress is not amortized until the related asset is available for use.

(d) Vacation accrual:

The College recognizes vacation as an expense on the accrual basis.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

1. Significant accounting policies (continued):

(e) Retirement and post-employment benefits and compensated absences:

The College provides defined retirement and post-employment benefits and compensated absences to certain employee groups. These benefits include pension, health and dental, vesting sick leave, non-vesting sick leave and compensated absences. The College has adopted the following policies with respect to accounting for these employee benefits:

- (i) The costs of post-employment future benefits are actuarially determined using management's best estimate of health care costs, disability recovery rates and discount rates. Adjustments to these costs arising from changes in estimates and experience gains and losses are amortized to income over the estimated average remaining service life of the employee groups on a straight-line basis.
- (ii) The costs of the multi-employer defined benefit pension are the employer's contributions due to the plan in the period.
- (iii) The cost of vesting and non-vesting sick leave benefits are actuarially determined using management's best estimate of salary escalation, employees' use of entitlement and discount rates. Adjustments to these costs arising from changes in actuarial assumption and/or experience are recognized over the estimated average remaining service lives of the employees.
- (iv) The discount rate used in the determination of the above-mentioned liabilities is based on the effective yield of Ontario bonds that approximates the weighted average duration of cash flows for the employee future benefits. This rate is also equal to the College's internal rate of borrowing.
- (v) The cost of compensated absences is determined using management's best estimate of the length of the compensated absences.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

1. Significant accounting policies (continued):

(f) Financial instruments:

The College classifies its financial instruments as either fair value or amortized cost. The College's accounting policy for each category is as follows:

(i) Fair value:

This category includes derivatives and equity instruments quoted in an active market. The College has elected to carry unrestricted and restricted investments that would otherwise be classified into the amortized cost category at fair value as the College reports performance of these on a fair value basis.

For unrestricted investments, unrealized changes in fair value are recognized in the statement of remeasurement gains and losses until they are realized, when they are transferred to the statement of operations.

Unrealized changes in fair value of a financial asset in a fair value category that is externally restricted are recorded in deferred contributions - bursaries and other.

Transaction costs related to financial instruments in the fair value category are expensed as incurred.

Where a decline in fair value is determined to be other than temporary, the amount of the loss is removed from accumulated remeasurement gains and losses and recognized in the statement of operations. On sale, the amount held in accumulated remeasurement gains and losses associated with that instrument is removed from net assets and recognized in the statement of operations for unrestricted investments.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

1. Significant accounting policies (continued):

(ii) Amortized cost:

This category includes accounts receivable, Ministry of Colleges and Universities ("MCU"), receivables, accounts payable and accrued liabilities, accrued payroll and employee benefits, MCU grants received in excess of entitlements and long-term debt. They are initially recognized at cost and subsequently carried at amortized cost using the effective interest rate method, less any impairment losses on financial assets.

Transaction costs related to financial instruments in the amortized cost category are added to the carrying value of the instrument.

Write-downs on financial assets in the amortized cost category are recognized when the amount of a loss is known with sufficient precision, and there is no realistic prospect of recovery. Financial assets are then written down to net recoverable value with the write-down being recognized in the statement of operations.

(g) Derivative financial instrument:

A derivative financial instrument is utilized by the College in the economic management of its interest rate exposure. The College does not enter into derivative financial instruments for trading or speculative purposes. The College uses an interest rate swap agreement to economically manage the floating interest rate of a portion of the debt portfolio and the related overall cost of borrowing.

(h) Inventory:

Inventory is valued at the lower of cost, on a first-in, first-out basis, and replacement cost.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

1. Significant accounting policies (continued):

(i) Contaminated sites:

Contaminated sites are defined as the result of contamination being introduced that exceeds an environmental standard.

A liability for remediation of contaminated sites is recognized, net of any expected recoveries, when all of the following criteria are met:

- (i) an environmental standard exists;
- (ii) contamination exceeds the environmental standard;
- (iii) the organization is directly responsible or accepts responsibility for the liability;
- (iv) future economic benefits will be given up; and
- (v) a reasonable estimate of the liability can be made.

(j) Capital donations:

The College records in-kind capital donations if a charitable tax receipt for income taxes is issued. Other in-kind donations are not recorded in the financial statements.

(k) Use of estimates:

The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenditures during the year. These estimates and assumptions are based on management's historical experience, best knowledge of current events and actions that the Board of Governors ("Board") may undertake in the future. Significant accounting estimates include allowance for doubtful accounts, actuarial estimates of post-employment benefits and compensated absences and estimated useful lives of capital assets. Actual results could differ from those estimates.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

2. Capital assets:

			2021	2020
	Cost	Accumulated amortization	Net book value	Net book value
Land	\$ 2,083,687	\$ –	\$ 2,083,687	\$ 2,083,687
Buildings	168,357,165	65,118,799	103,238,366	106,227,853
Site improvements	5,350,443	4,662,325	688,118	870,702
Furniture and equipment	34,247,754	28,426,208	5,821,546	6,143,221
Computer equipment	8,939,162	8,146,085	793,077	1,609,621
Residence furniture	1,086,301	1,086,301	–	–
Fibre optic system	1,560,459	1,282,855	277,604	355,627
Enterprise Resource Planning System	4,014,447	3,983,283	31,164	49,147
Leasehold improvements	563,561	497,943	65,618	88,815
Sport and Wellness Centre	2,470,079	780,601	1,689,478	1,738,929
Sports fields	2,711,111	1,014,089	1,697,022	1,832,577
	\$ 231,384,169	\$ 114,998,489	\$ 116,385,680	\$ 121,000,179

Included in buildings is construction in progress in the amount of \$266,241 (2020 - \$1,515,443).

During 2021, construction in progress of \$1,515,443 (2020 - \$522,314) was completed, transferred to capital assets and amortization commenced.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

3. Deferred capital contributions:

Deferred capital contributions represent the unamortized amount and unspent amount of donations and grants received for the purchase of capital assets. The amortization of deferred capital contributions is recorded as revenue in the statement of operations. The changes in the deferred capital contributions balance are as follows:

	2021	2020
Balance, beginning of year	\$ 85,450,187	\$ 87,371,098
Less amounts amortized to revenue	4,478,093	4,498,764
	80,972,094	82,872,334
Contributions received for capital purposes	4,366,661	2,577,853
Balance, end of year	\$ 85,338,755	\$ 85,450,187

As at March 31, 2021, there was \$3,771,160 (2020 - \$2,025,710) of deferred capital contributions received that were not spent.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

4. Long-term debt:

	2021	2020
Health Sciences Cluster Project loan, payable \$116,420 semi- annually including interest at 2.64%, due August 2039	\$ 3,390,558	\$ 3,531,100
Less principal repayments due within one year	144,276	140,542
	3,246,282	3,390,558
GeoCentre and Environmental Sciences project loan, payable \$45,275 semi-annually including interest at 2.64%, due August 2039	1,318,550	1,373,205
Less principal repayments due within one year	56,107	54,655
	1,262,443	1,318,550
Brealey Student residence loan, payable \$630,940 semi-annually, including interest at 3.218%, due July 2027, secured by specific property	7,348,199	8,349,388
Less principal repayments due within one year	1,033,666	1,001,188
	6,314,533	7,348,200
The Peterborough Sport and Wellness Centre loan payable, secured by specific property (a)	552,000	641,000
Less principal repayments due within one year	94,000	89,000
	458,000	552,000
	\$ 11,281,258	\$ 12,609,308

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

4. Long-term debt (continued):

- (a) The College negotiated a term bank loan, by way of a bankers' acceptance loan, to finance the Peterborough Sport and Wellness Centre on June 13, 2006 with an initial notional amount of \$1,500,000. The loan is repayable by blended quarterly payments maturing June 13, 2026.

The College has since entered into an interest rate swap agreement to modify the floating rate of interest (note 10(c)) on this loan to a fixed rate of 5.04% plus stamping fee of 0.45% for a total fixed rate of 5.49%.

The principal repayments due on long-term debt in the next five years and thereafter are as follows:

2022	\$ 1,328,049
2023	1,371,905
2024	1,416,990
2025	1,464,344
2026	1,512,006
Thereafter	5,516,013
	<hr/>
	\$ 12,609,307

The College also has a revolving credit facility for an operating line of credit to a maximum of \$5,000,000. The operating line of credit is unsecured and bears interest at the College's bank prime lending rate minus 0.50%. As at March 31, 2021 no amounts have been drawn on this facility (2020 - nil).

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

5. Post-employment benefits and compensated absences:

The following tables outline the components of the College's post-employment benefits and compensated absences liabilities and the related expenses:

				2021	2020
	Post-employment benefits	Non-vesting sick leave	Compensated absences	Total liability	Total liability
Accrued employee future benefits	\$ 735,000	\$ 2,983,000	\$ 305,000	\$ 4,023,000	\$ 4,064,000
Value of plan assets	(172,000)	–	–	(172,000)	(167,000)
Unamortized actuarial gains (losses)	55,000	(156,000)	–	(101,000)	(194,000)
Total liability	\$ 618,000	\$ 2,827,000	\$ 305,000	\$ 3,750,000	\$ 3,703,000

				2021	2020
	Post-employment benefits	Non-vesting sick leave	Compensated absences	Total expense	Total expense
Current year benefit costs	\$ (4,000)	\$ 315,000	\$ 305,000	\$ 616,000	\$ 465,000
Interest accrued benefit obligation	1,000	48,000	–	49,000	57,000
Amortization of actuarial (gains) losses	(7,000)	69,000	–	62,000	(263,000)
Total expense	\$ (10,000)	\$ 432,000	\$ 305,000	\$ 727,000	\$ 259,000

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

5. Post-employment benefits and compensated absences (continued):

Above amounts exclude pension contributions to the Colleges of Applied Arts and Technology Pension Plan (the "Plan"), a multi-employer plan, described below:

(a) Retirement benefits:

All full-time employees of the College, and any part-time employees who opt to participate, are members of the Plan, a multi-employer jointly-sponsored defined benefit plan for public colleges in Ontario and other employers across Canada. The College makes contributions to the Plan equal to those of employees. Contribution rates are set by the Plan's governors to ensure the long-term viability of the Plan. Since the Plan is a multi-employer plan, the College's contributions are accounted for as if the Plan were a defined contribution plan with the College's contributions being expensed in the period they come due.

Any pension surplus or deficit is a joint responsibility of the members and employers and may affect future contribution rates related to full-time members. The College does not recognize any share of the Plan's pension surplus or deficit as insufficient information is available to identify the College's share of the underlying pension assets and liabilities. The most recent actuarial valuation filed with pension regulators as at January 1, 2021 indicated an actuarial surplus on a going concern basis of \$3.3 billion. The College made contributions to the Plan of \$6,698,624 (2020 - \$6,808,078), which has been included in the statement of operations.

The College makes contributions to a Retirement Compensation Arrangement ("RCA") to triple the qualifying employee contributions. In 2021, the College's contributions to RCA amounted to \$49,061 (2020 - \$40,556), and has been included in the statement of operations.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

5. Post-employment benefits and compensated absences (continued):

(b) Post-employment benefits:

The College extends post-employment life insurance, health and dental benefits to certain employee groups subsequent to their retirement. The College recognizes these benefits as they are earned during the employees' tenure of service. The related benefit liability was determined by an actuarial valuation study commissioned by the College Employer Council as at February 5, 2020 for employee post-employment benefits, February 11, 2020 for non-vesting sick leave and August 31, 2019 for vesting sick leave and extrapolated to March 31, 2021.

The major actuarial assumptions employed for the valuations are as follows:

(i) Discount rate:

The present value, as at March 31, 2021, of the future benefits was determined using a discount rate of 1.7%.

(ii) Medical premium:

Medical premium were assumed to increase at 6.42% per annum and decrease proportionately thereafter to an ultimate rate of 4.0% in 2040.

(iii) Dental costs:

Dental costs were assumed to increase at 4.0% per annum.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

5. Post-employment benefits and compensated absences (continued):

(c) Compensated absences:

Non-vesting sick leave:

The College allocates to certain employee groups a specified number of days each year for use as paid absences in the event of illness or injury. These days do not vest and are available immediately. Employees are permitted to accumulate their unused allocation each year, up to the allowable maximum provided in their employment agreements. Accumulated days may be used in future years to the extent that the employees' illness or injury exceeds the current year's allocation of days. Sick days are paid out at the salary in effect at the time of usage. The related benefit liability was determined by an actuarial valuation study commissioned by the College Employer Council.

The assumptions used in the valuation of vesting and non-vesting sick leave are the College's best estimates of expected rates of:

	2021	2020
Wage and salary escalation	1.00% - 2.00%	1.00% - 2.00%
Discount rate	1.70%	1.60%

The probability that the employee will use more sick days than the annual accrual and the excess number of sick days used are within ranges of 0.0% to 26.2% and nil to 51 days, respectively, for age groups ranging from 20 and under to 65 and over in bands of five years.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

6. Net assets invested in capital assets:

(a) Invested in capital assets represent the following:

	2021	2020
Capital assets, at cost (note 2)	\$ 231,384,169	\$ 229,620,239
Accumulated amortization (note 2)	(114,998,489)	(108,620,060)
Long-term debt:		
Long-term portion (note 4)	(11,281,258)	(12,609,308)
Current portion (note 4)	(1,328,049)	(1,285,385)
Deferred contributions related to capital assets excluding unspent portion (note 3)	(81,567,595)	(83,424,477)
Balance, end of year	\$ 22,208,778	\$ 23,681,009

(b) The change in net assets invested in capital assets is calculated as follows:

	2021	2020
Excess (deficiency) of revenue over expenditures:		
Amortization of deferred capital contributions	\$ 4,478,093	\$ 4,498,764
Amortization of capital assets	(7,662,653)	(7,573,732)
Gain on disposal of capital assets	1,905	35,605
	\$ (3,182,655)	\$ (3,039,363)
Net change in investment in capital assets:		
Purchased capital assets	\$ 3,049,640	\$ 5,802,502
Amounts funded by deferred capital contributions	(2,621,211)	(1,828,480)
Issuance of long-term debt	—	(5,000,000)
Principal payments on long-term debt	1,285,386	1,150,426
Proceeds on disposal of capital assets	(3,391)	(43,719)
	\$ 1,710,424	\$ 80,729

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

7. Internally restricted net assets:

	2021	2020
Residence and other direct student services	\$ –	\$ 1,010,000
Sports Field Capital Reserve Fund	70,000	60,000
	<u>\$ 70,000</u>	<u>\$ 1,070,000</u>

Internally restricted net assets represent funds restricted by Board motion for the purpose of residence and other direct student services, as well as capital repairs and improvements to the sports field complex. Board approval is required for expenditures.

Effective March 31, 2021, the Board approved a transfer of \$1,010,000 to unrestricted from internally restricted net assets for the purpose of residence and other direct student services. A further transfer of \$10,000 from unrestricted to internally restricted net assets was approved for the purpose of capital repairs and improvements to the sports field complex. The net transfer of \$1,000,000 was made from internally restricted net assets to unrestricted net assets for the above two items. The balance now represents funds available for future reinvestment.

8. Restricted for endowments:

Externally restricted net assets include endowment funds which have been donated for specific purposes. The principal sum must be held for investment, while the income earned is expendable for the specific purposes outlined when the funds are donated. The College ensures, as part of its fiduciary responsibilities, that all funds received with a restricted purpose are expended for the purpose for which they are provided.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

8. Restricted for endowments (continued):

Endowed funds include the following:

(a) Ontario Student Opportunity Trust Funds:

These funds were provided by the Government of Ontario from the Ontario Student Opportunity Trust Fund Phase 1 and Phase 2 ("OSOTF") matching program to award student aid as a result of raising an equal amount of endowed donations.

The College has recorded the following amounts under the OSOTF programs:

(i) OSOTF - Phase 1:

Schedule of changes in endowment fund balance:

	2021	2020
Fund balance, beginning of year	\$ 1,418,491	\$ 1,418,455
Preservation of capital	33	36
Fund balance, end of year	\$ 1,418,524	\$ 1,418,491

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

8. Restricted for endowments (continued):

Schedule of changes in expendable funds available for awards:

	2021		2020	
	Market	Cost	Market	Cost
Balance, beginning of year	\$ 203,677	\$ 225,553	\$ 278,862	\$ 209,339
Realized investment income, net of direct investment-related expenses and preservation of capital contributions	176,585	(26,838)	(60,655)	30,744
Bursaries awarded (2021 - 84; 2020 - 25)	(73,245)	(73,245)	(14,530)	(14,530)
Balance, end of year	\$ 307,017	\$ 125,470	\$ 203,677	\$ 225,553

(ii) OSOTF - Phase 2:

Schedule of changes in endowment fund balance:

	2021	2020
Fund balance, beginning of year	\$ 473,888	\$ 473,814
Preservation of capital	68	74
Fund balance, end of year	\$ 473,956	\$ 473,888

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

8. Restricted for endowments (continued):

Schedule of changes in expendable funds available for awards:

	2021		2020	
	Market	Cost	Market	Cost
Balance, beginning of year	\$ 61,620	\$ 67,110	\$ 82,225	\$ 59,552
Realized investment income, net of direct investment-related expenses and preservation of capital contributions	54,213	(9,109)	(17,995)	10,168
Bursaries awarded (2021 - 24; 2020 - 3)	(29,720)	(29,720)	(2,610)	(2,610)
Balance, end of year	\$ 86,113	\$ 28,281	\$ 61,620	\$ 67,110

(b) Ontario Trust for Student Support:

These monies were provided by the Government of Ontario from the Ontario Trust for Student Support matching program to award student aid.

Schedule of changes in endowment fund balances during the year:

	2021	2020
Fund balance, beginning of year	\$ 3,813,094	\$ 3,813,079
Preservation of capital	14	15
Fund balance, end of year	\$ 3,813,108	\$ 3,813,094

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

8. Restricted for endowments (continued):

Schedule of changes in expendable funds available for awards:

	2021		2020	
	Market	Cost	Market	Cost
Balance, beginning of year	\$ 309,679	\$ 355,077	\$ 493,212	\$ 319,240
Realized investment income, net of direct investment-related expenses and preservation of capital contributions	407,479	(63,931)	(140,990)	78,380
Bursaries awarded (2021 - 228; 2020 - 57)	(180,901)	(180,901)	(42,543)	(42,543)
Balance, end of year	\$ 536,257	\$ 110,245	\$ 309,679	\$ 355,077

9. Investment income:

Investment income is earned from the following sources:

	2021	2020
Income from unrestricted investments	\$ 679,566	\$ 1,256,894
Income (loss) from endowment and restricted investments	836,713	(261,374)
	\$ 1,516,279	\$ 995,520

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

9. Investment income (continued):

The College has certain agreements for bursaries that do not have stipulations on the investment income earned from these restricted funds. The income earned from these investments is unrestricted and reported as part of other revenue as noted above.

10. Financial instrument classification:

The following tables provide cost and fair value information of financial instruments by category. The maximum exposure to credit risk would be the carrying value, as shown below:

2021	Fair value	Amortized cost
Cash	\$ 27,453,527	\$ —
Short-term investments (a)	27,890,556	—
MCU receivables	—	7,632,735
Accounts receivable	—	4,314,267
Restricted investments for endowments, bursaries and other (b)	9,615,285	—
Long-term investments (a)	305,181	—
Accounts payable and accrued liabilities	—	(20,543,828)
Accrued payroll and employee benefits	—	(11,601,021)
MCU grants received in excess of entitlements	—	(688,058)
Long-term debt	—	(12,609,307)
Deferred derivative liability (c)	(62,000)	—

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

10. Financial instrument classification (continued):

2020	Fair value	Amortized cost
Cash	\$ 21,294,367	\$ —
Short-term investments (a)	33,556,477	—
MCU receivables	—	4,776,648
Accounts receivable	—	5,004,210
Restricted investments for endowments, bursaries and other (b)	9,592,988	—
Long-term investments (a)	6,999,870	—
Accounts payable and accrued liabilities	—	(23,754,375)
Accrued payroll and employee benefits	—	(11,100,335)
MCU grants received in excess of entitlements	—	(1,371,546)
Long-term debt	—	(13,894,693)
Deferred derivative liability (c)	(89,000)	—

All investments follow the Government of Ontario Binding Policy Directive on Banking, Investments and Borrowing.

- (a) Excess of operating funds are invested in liquid securities that are accessible when required. Short-term investments consist of guaranteed investment certificates with maturities of less than one year. Long-term investments consist of guaranteed investment certificates with maturities that are greater than one year.

Excess of operating funds held in short-term investments have yields varying from 0.70% to 3.16% (2020 - 2.20% to 2.55%) with maturity dates ranging from June 29, 2021 to March 4, 2022 (2020 - August 3, 2020 to December 17, 2020).

Excess of operating funds held in long-term investments have yields varying from 1.19% to 2.11% (2020 - 1.75% to 3.16%) with maturity dates ranging from February 26, 2023 to January 29, 2026 (2020 - January 14, 2022 to June 2, 2023).

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

10. Financial instrument classification (continued):

- (b) Restricted investments for endowments, bursaries and other consist of cash, pooled fund investments in money market, guaranteed investment certificates, fixed term bonds and Canadian equities. The maturity profile of the bonds included in restricted investments is as follows:

2021	Within 1 year	2 - 5 years	6 - 10 years	Over 10 years	Total
Carrying value	\$ 93,505	\$ 605,517	\$ 205,572	\$ 183,591	\$ 1,088,185
Percentage of total	8	56	19	17	100
2020	Within 1 year	2 - 5 years	6 - 10 years	Over 10 years	Total
Carrying value	\$ 273,074	\$ 891,631	\$ 21,260	\$ –	\$ 1,185,965
Percentage of total	23	75	2	–	100

- (c) The College entered into an interest rate swap agreement in a prior year to economically manage the floating interest rate of the bankers' acceptance loan (note 4(a)).

Under the terms of the interest rate swap agreement, the College has contracted with the counter-party to pay a fixed rate of interest including stamping fee of 0.45% of 5.49% (2020 - 0.45% of 5.49%), while receiving interest at a variable rate to be set quarterly based on the bankers' acceptance rates of 5.49%. The maturity date of the interest rate swap agreement is June 13, 2026.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

10. Financial instrument classification (continued):

The notional value of the interest rate swap agreement at March 31, 2021 is \$552,000 (2020 - \$641,000) and is amortized quarterly during the term of the interest rate swap agreement.

The fair value of the interest rate swap agreement at March 31, 2021 is \$62,000 (2020 - \$89,000) and is recorded as a deferred derivative liability on the statement of financial position.

The following provides an analysis of financial instruments that are measured subsequent to initial recognition at fair value, grouped into Level 1 to Level 3 based on the degree to which the fair value is observable:

- Level 1 - fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities using the last bid price;
- Level 2 - fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices); and
- Level 3 - fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

All cash, short-term investments, long-term investments and restricted investments for endowments, bursaries and other are classified as Level 1 financial instruments. The deferred derivative liability is classified as a Level 3 financial instrument.

There were no transfers between levels for the years ended March 31, 2021 and 2020. For a sensitivity analysis of financial instruments recognized in Level 3, see note 11 - interest rate risk, as the prevailing interest rate is the most significant input into the fair value of the instrument.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

11. Risk management:

(a) Credit risk:

Credit risk is the risk of financial loss to the College if a debtor fails to make payments of interest and principal when due. The College is exposed to this risk relating to its cash, debt holdings in its investment portfolio and accounts receivable. The College holds its cash accounts with federally regulated chartered banks which are insured by the Canadian Deposit Insurance Corporation. In the event of default, each of the College's cash accounts are insured up to \$100,000 (2020 - \$100,000).

The College's investment policy operates within the constraints of the investment guidelines issued by MCU. The College policy puts limits on the bond portfolio, including portfolio composition, issuer type, bond quality, aggregate issuer, corporate sector and general guidelines for geographic exposure. All fixed income portfolios are measured for performance on a semi-annual basis and monitored by management on a monthly basis. Externally restricted and endowment funds, which are generally money and donations for scholarships and bursaries are invested in corporate bonds with a credit rating of A(R-1) or better. All other College funds are restricted to Corporate bonds with a rating of AAA.

The maximum exposure to investment credit risk is outlined in note 10.

The College measures its exposure to credit risk based on how long the amounts have been outstanding. An impairment allowance is set up based on the College's historical experience regarding collections. The maximum exposure to credit risk from receivables of the College at March 31, 2021 is the carrying value of these assets.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

11. Risk management (continued):

Accounts receivable includes student receivables and other receivables as noted in the table below. Student receivables are ultimately due from students. Credit risk is mitigated by financial approval processes before a student is enrolled and due to the highly diversified nature of the student population.

	2021	2020
MCU receivables	\$ 7,632,735	\$ 4,776,648
Accounts receivable:		
Student receivables	650,933	537,735
Other receivables	4,117,214	4,767,475
	4,768,147	5,305,210
Less allowance for doubtful accounts	453,880	301,000
	4,314,267	5,004,210
	\$ 11,947,002	\$ 9,780,858

Student receivables not impaired are collectible based on the College's assessment and past experience regarding collection rates.

There have been no significant changes from the previous year in the exposure to credit risk or policies, procedures and methods used to measure the risk.

(b) Market risk:

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate as a result of market factors. Market factors include three types of risk: currency risk, interest rate risk and equity risk.

The College's investment policy operates within the constraints of the investment guidelines issued by MCU. The policy's application is monitored by management, the investment managers and the Board. Diversification techniques are utilized to minimize risk.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

11. Risk management (continued):

The investment policy outlines an asset mix comprising:

Fixed income	33% - 53%
Equities	45% - 65%
Cash and short-term investments	0% - 22%

The policy sets limits and the maximum amount allowable per investment grade non-government fixed income issue at the greater of 15% of the total portfolio or 20% of the fixed income portfolio.

(i) Currency risk:

Currency risk relates to the College operating in different currencies and converting non-Canadian earnings at different points in time at different foreign exchange rates when adverse changes in foreign currency rates occur. The College does not have any material transactions or financial instruments denominated in foreign currencies.

There have been no significant changes from the previous year in the exposure to currency risk or policies, procedures and methods used to measure the risk.

(ii) Interest rate risk:

Interest rate risk is the potential for financial loss caused by fluctuations in fair value or future cash flows of financial instruments because of changes in market interest rates.

The College is exposed to this risk through its interest-bearing investments and long-term debt.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

11. Risk management (continued):

The College mitigates interest rate risk on its long-term debt through a derivative financial instrument that exchanges the variable rate inherent in the long-term debt for a fixed rate (note 4(a)). Therefore, fluctuations in market interest rates would not impact future cash flows and operations relating to the term debt.

The College's bond portfolio has interest rates ranging from 0.70% to 3.85% (2020 - 1.60% to 3.32%) with maturities ranging from April 19, 2021 to April 3, 2049 (2020 - April 8, 2020 to November 22, 2027).

At March 31, 2021, a 1% fluctuation in interest rates, with all other variables held constant, would have an estimated impact on the fair value of bonds and the interest rate swap of \$150 and \$15,500 (2020 - \$330 and \$22,000), respectively. The College's long-term debt, as described in note 4, would not be impacted as the inherent variable rate of the debt has been fixed with the use of the aforementioned derivative interest rate swap.

There have been no significant changes from the previous year in the exposure to interest rate risk or policies, procedures and methods used to measure the risk.

(iii) Equity risk:

Equity risk is the uncertainty associated with the valuation of assets arising from changes in equity markets. The College is exposed to this risk through its equity holdings within its investment portfolio. At March 31, 2021, a 10% movement in the stock markets with all other variables held constant would have an estimated effect on the fair values of the College's equities of \$510,000 (2020 - \$212,000).

There have been no significant changes from the previous year in the exposure to equity risk or policies, procedures and methods used to measure the risk.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

11. Risk management (continued):

(c) Liquidity risk:

Liquidity risk is the risk that the College will not be able to meet all cash outflow obligations as they come due. The College mitigates this risk by monitoring cash activities and expected outflows through extensive budgeting and maintaining investments that may be converted to cash in the near term if unexpected cash outflows arise. The following table sets out the contractual maturities (representing undiscounted contractual cash flows of financial liabilities):

	Within 6 months	6 months to 1 year	1 - 5 years	Greater than 5 years
Accounts payable and accrued liabilities	\$ 17,860,981	\$ 2,682,847	\$ –	\$ –
Accrued payroll and employee benefits	11,329,708	264,093	7,220	–
Long-term debt	682,242	645,807	5,765,245	5,516,013

Derivative financial liabilities mature as described in note 4.

There have been no significant changes from the previous year in the exposure to liquidity risk or policies, procedures and methods used to measure the risk.

(d) Other risk:

The College's main source of revenue is tuition and government operating grants. In March 2020, the COVID-19 outbreak was declared a pandemic by the World Health Organization. This resulted in the Canadian and Provincial governments enacting emergency measures to combat the spread of the virus. The College halted all in-person activity and closed its facilities to staff and students and moved to online education format in March 2020 based on recommendations from Public Health Ontario. The winter 2020 semester was moved to an online format and subsequent semesters continued in the same format.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

11. Risk management (continued):

In response to the adverse impact the pandemic has caused to the College's student tuition and ancillary operations revenue streams and corresponding cash flow, the College has undertaken certain cost cutting measures.

The impact of COVID-19 is expected to negatively impact operations for a duration that cannot be reasonably predicted. The overall operational and financial impact is highly dependent on the duration of COVID-19, including the potential occurrence of additional waves of the pandemic, and could be affected by other factors that are currently not known at this time.

12. Fleming College Foundation:

Fleming College Foundation (the "Foundation") was established to raise funds for the use of the College. The Foundation was incorporated under the Corporations Act (Ontario) and is a registered charity under the Income Tax Act (Canada).

As defined by the Chartered Professional Accountants of Canada PSAB accounting recommendations for Government NPOs, the College controls the Foundation operations in that they have common board members controlling both entities. The majority of fundraising has been carried out by the College since April 1, 2011.

The Foundation's financial statements have not been consolidated in the College's financial statements. Separate financial statements of the Foundation are available upon request.

SIR SANDFORD FLEMING COLLEGE OF APPLIED ARTS AND TECHNOLOGY

DRAFT Notes to Financial Statements (continued)

Year ended March 31, 2021

12. Fleming College Foundation (continued):

Financial summaries of the Foundation as at and for the year ended March 31 are as follows:

	2021	2020
Financial position		
Total assets	\$ 6,112	\$ 5,951
Total liabilities	6,112	5,951
Fund balances	\$ –	\$ –
Results of operations		
Total revenue	\$ 18,745	\$ 19,432
Total expenses	6,281	5,951
Transfers to Fleming College	12,464	13,481
Excess of revenue over expenditures	\$ –	\$ –

The net resources of the Foundation amount to nil (2020 - nil).

13. Commitments:

The College is committed to the following operating lease payments in each of the following years:

2022	\$ 386,484
2023	276,427
2024	167,820
2025	113,544
2026	58,168
	\$ 1,002,443



Board of Governors

Briefing Note



FLEMING

Topic: Internal Statement of Revenue and Expenditures for the year ended March 31, 2021
Report To: Public Board Meeting
Reviewed by Finance and Audit Committee on May 17, 2021 for final submission to the Board of Governors
Meeting Date: May 26, 2021
Prepared By: Angie Sims, Director, Financial Services and Controllershship
Drew Van Parys, Acting Vice-President, Corporate Services and CFO

Recommendation

That the Board of Governors of Sir Sandford Fleming College, receive for information, the Internal Statement of Revenue and Expenditures for the year ended March 31, 2021.

Overview

The March 31, 2021 Internal Statement of Revenue and Expenditures (attached) provides more detail than the Audited Statement of Revenue and Expenditures. The attached statement reflects a deficit of \$3.36 million which is consistent with the deficit reflected in the draft Audited Financial Statements.

The following provides explanations for significant budget variances (variances > \$100,000 and 10%) for the year ended March 31, 2021:

Revenues:

- Grants and Reimbursements:** Late in the 4th quarter of the fiscal year, the Provincial Government announced a one-time COVID recovery grant payment that resulted in Fleming College receiving \$6 million in unexpected funding. The timeline for the grant covered fiscal 2020-21 through to June 30, 2021. As a result of the additional funding, we have applied \$2.8 million of funding to the 2020-2021 fiscal year that was not included in the budget. The remaining \$3.2 million will be recognized as revenue in the 2021-2022 fiscal year.
- Part Time and Other Tuition:** Part time tuition trended higher than budget throughout the fiscal year, and although projections were increased at budget update, the winter semester still far exceeded expectations with an overall variance for the year of an additional \$627 K of revenue.
- Fee for Service:** Revenue under Fee For Service ended up exceeding budget by \$490 K as a result of School College Work Initiative (SCWI) activities being higher in volume than projected as more courses were able to run than were expected. It was thought that COVID restrictions would put some courses on hold.
- Other Income:** Other income was higher as a result of unplanned activities that included scrap metal sales, locker rentals and other student activity.
- Service System Management:** The shortfall in revenue is tied directly to expenses being less than anticipated. The project is fully funded with revenues offsetting any expenses incurred.

6. **Skills Programs:** Revenue ties directly to expenses incurred within the programs. As a result of COVID hampering operations for much of the year, the expenses for employment services were much lower than anticipated. With revenue matching expenses, any decline in revenue equates to a decline in expenses.
7. **Ministry Bursaries:** Donated funds and distribution of bursaries is not fully known at the time of budget preparation and this traditionally results in a budget variance. This poses no risk to the College operating budget as 100% of bursary revenue recognized is flowed directly to students as awards and/or required financial aid. Revenue and expense nets to zero.
8. **Facility Renewal and Renovation:** Grants associated with the College renewal and renovation projects are recognized as revenue when expenditures are made on the eligible projects that are not capital in nature. Revenue recognized in Operations (non-capital) is over budget by \$310,000 and is offset by the corresponding expenditures.

Expenditures:

9. **Academic, Part Time Salaries:** Academic Part-time salaries were over budget by \$1.7 million. This overage was due to an increase in hours to cover off development time to transition curriculum to online delivery and an increase in the number of sections required to ensure compliance with health regulations regarding class sizes and social distancing.
10. **Other, Part Time Salaries:** Cost-saving measures were undertaken to offset the impacts of COVID. Budgets were set with an anticipation that things would return closer to normal in the winter semester, however that did not occur and the year ended with \$660 K of savings.
11. **Academic Delivery and Supports:** Expenses trended below budget throughout the year with an expectation that spending would increase in the final quarter if COVID restrictions were loosened and more in person activity could occur. As a result of COVID restrictions in fact tightening and most programs continuing to operate through distance learning, there were savings of \$1.2 M.
12. **Staffing Development:** There was limited spending in this area as many in-person Professional Development (PD) opportunities were not available. Employees were supported in finding alternative methods of PD, and despite the encouragement from College Administration to utilize the funds for the betterment of the workforce, the PD spending didn't materialize, resulting in savings of \$400,000.
13. **Business Travel, Accommodation & Hospitality:** Budgets were reduced at budget update with the hope that some travel would open up before the end of winter semester. With the additional restrictions imposed by the government, international travel was shut down and it resulted in underspending of \$332,000.
14. **Advertising:** Trended below budget throughout the year as in-person events (e.g., 2 Open House events, Metro Fair) were cancelled and associated marketing support shifted to virtual. A brand launch initially anticipated to occur during the year was deferred to the next fiscal year. This resulted in savings of \$510,000.
15. **Equipment Maintenance:** Spending ended up \$130,000 under budget as measures were taken to keep spending to a minimum and only do maintenance that was absolutely necessary, while other maintenance was delayed where possible and will be caught up in 2021-2022.

16. **Rentals and Taxes:** While the majority of the budget is tied to long-term rentals that are covered under existing agreements, the variance has arisen due to delays in use of short-term rental spaces for academic programs. Timing of the rental space use has changed this year as programs revolve around their ability to deliver in person learning and created savings of \$231,000.
17. **Finance and Banking:** The variance of \$117,000 is the result of unanticipated bad debts write-offs during the year.
18. **International Payments:** Savings of \$805,000 were the result of an overestimate of commissions to be paid, as well as less scholarships and bursaries being paid out, which is tied to low enrolment numbers for the year.
19. **Service Fees:** Professional fees were lower than anticipated with projects delayed and/or performed in-house. Total savings amounted to \$466,000.
20. **Investments:** Investments came in under budget by \$776,000, with projects showing lower cost than anticipated and grant-funded IT projects being deferred into next year.
21. **Special Projects:** Expenses are tied to grant revenue, with a slight difference between revenue and expenses of \$20,000 which is the result of unanticipated expenses that were over and above grant revenue.
22. **Ancillary Operations:** Non-Operating Ancillary Operations, including Residence and Parking, have seen budgets for revenue significantly reduced, including parking revenue being set to zero. Expenses related to the ancillary operations were trending below budget throughout the year as measures were taken to try and offset lost revenue. With an effort to reduce costs, the end result was spending under budget of \$800,000.
23. **Net Asset Adjustment:** This is a year-end adjustment representing the change in vacation accrual, post-employment benefits and compensating absences for the year.

Alignment with Fleming College's Strategic Direction and the Strategic Mandate Agreement

Maintaining College financial health with appropriate resource allocation to fund strategic priorities.

Risks and Considerations

☐ External Environment ☐ Internal Environment ☒ Financial ☐ Human Resources
☐ Information Technology ☐ Legal ☒ Operational ☐ Strategic ☐ N/A

Supporting Documentation

Include the file names of any supporting documentation below:

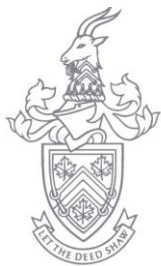
- Statement of Revenue and Expenditures – March 31, 2021

SIR SANDFORD FLEMING COLLEGE
Statement of Revenue and Expenditures
For the period ending March 31, 2021

	Actual To 31-Mar-21	Budget Current Year	Variance \$	Variance %	Notes	Actual Prior Year
Revenue						
Grants and Reimbursements	\$ 48,955,223	\$ 46,739,356	\$ (2,215,867)	(4.7%)	1	\$ 45,527,902
Tuition FT Spring	807,084	806,858	(226)	(0.0%)		1,985,373
Tuition FT Fall	6,013,733	6,029,120	15,387	0.3%		6,678,636
Tuition FT Winter	4,844,778	5,120,379	275,601	5.4%		6,798,669
Domestic Full-time Tuition	11,665,595	11,956,357	290,762	2.4%		15,462,678
Tuition International FT Spring	4,150,257	4,134,771	(15,486)	(0.4%)		7,021,891
Tuition International FT Fall	9,087,319	9,227,247	139,928	1.5%		13,839,760
Tuition International FT Winter	9,438,432	10,412,692	974,260	9.4%		15,514,604
International Full-time Tuition	22,676,009	23,774,710	1,098,701	4.6%		36,376,255
Full-time Tuition	34,341,603	35,731,067	1,389,464	3.9%		51,838,932
Part-time and Other Tuition	2,644,123	2,016,346	(627,777)	(31.1%)	2	3,577,908
Student Tuition Fees	36,985,726	37,747,413	761,687	2.0%		55,416,840
Contract Training	892,532	958,406	65,874	6.9%		1,207,398
College Ancillary Operations	285,179	257,750	(27,429)	(10.6%)		1,282,279
Fee for Service	1,958,804	1,468,051	(490,753)	(33.4%)	3	2,454,273
Fundraising	0	10,000	10,000	100.0%		10,600
Other Income	2,348,773	1,923,910	(424,863)	(22.1%)	4	5,583,698
Student Fees	5,194,855	5,581,627	386,772	6.9%		7,310,744
Total Other Income	9,787,611	9,241,338	(546,273)	(5.9%)		16,647,514
Amortization of Deferred Capital Contrib	4,478,093	4,385,812	(92,281)	(2.1%)		4,498,764
Total Operating Revenues	101,099,185	99,072,325	(2,026,860)	(2.0%)		123,298,418
Investments	646,434	646,415	(19)	(0.0%)		(10,161)
Service System Management	13,253,465	15,808,165	2,554,700	16.2%	5	156,183
Skills Programs	3,284,661	3,781,196	496,535	13.1%	6	3,354,028
Tuition Holdback Bursaries	1,824,436	1,903,909	79,473	4.2%		2,359,768
Ministry Bursaries	1,150,888	1,000,000	(150,888)	(15.1%)	7	466,966
Special Projects	4,653,821	5,167,012	513,191	9.9%		3,933,741
Facilities Renewal and Renovation Proje	901,685	592,141	(309,544)	(52.3%)	8	108,463
Ancillary Operations	1,143,048	1,155,852	12,804	1.1%		5,639,651
Total Revenue	\$ 127,957,624	\$ 129,127,015	\$ 1,170,822	0.9%		\$ 139,307,059

SIR SANDFORD FLEMING COLLEGE
Statement of Revenue and Expenditures
For the period ending March 31, 2021

	Actual To 31-Mar-21	Budget Current Year	Variance \$	Variance %	Notes	Actual Prior Year
Expenditures						
Salaries and Benefits						
Academic, Full Time	\$ 22,893,146	\$ 23,322,823	\$ 429,677	1.8%		\$ 22,031,008
Administration, Full Time	10,056,509	9,862,869	(193,640)	(2.0%)		9,946,555
Support, Full Time	13,655,681	14,211,240	555,559	3.9%		15,970,069
Salaries, Full Time	46,605,336	47,396,932	791,596	1.7%		47,947,632
Academic, Part Time	12,104,978	10,391,517	(1,713,461)	(16.5%)	9	15,163,329
Other, Part Time	975,959	1,636,563	660,604	40.4%	10	3,332,200
Salaries, Part Time	13,080,936	12,028,080	(1,052,856)	(8.8%)		18,495,528
Benefits	13,229,278	13,282,041	52,763	0.4%		13,851,769
Total Salaries and Benefits	72,915,550	72,707,053	(208,497)	(0.3%)		80,294,929
	22.2%	22.4%				20.8%
Non-Salary Expenses						
Academic Delivery	859,744	1,279,223	419,479	32.8%		2,388,465
Academic Supports	2,538,559	3,370,467	831,908	24.7%	11	3,544,325
Staffing Development	208,129	606,346	398,217	65.7%	12	552,632
Business Travel, Accommodation & Hosp	45,754	377,644	331,890	87.9%	13	1,279,889
Advertising	504,021	1,013,503	509,482	50.3%	14	1,392,913
Telephone, Audit, Legal & Insurance	1,353,207	1,301,168	(52,039)	(4.0%)		1,213,133
Equipment Maintenance	413,207	544,760	131,553	24.1%	15	569,912
Plant and Security	3,340,521	3,042,958	(297,563)	(9.8%)		3,599,258
Rentals and Taxes	648,554	879,960	231,406	26.3%	16	848,104
Utilities	2,379,571	2,506,931	127,360	5.1%		2,888,110
Contract Services Trent	2,608,290	2,683,186	74,896	2.8%		2,640,092
Finance and Banking	(865,584)	(983,292)	(117,708)	12.0%	17	(514,285)
International Payments	2,866,342	3,672,035	805,693	21.9%	18	6,538,635
Service Fees	4,047,609	4,513,780	466,171	10.3%	19	5,775,991
Long Term Debt Interest	160,656	162,500	1,844	1.1%		121,794
Amortization of Capital Assets	7,032,440	7,445,136	412,696	5.5%		6,937,159
Total Non-Salary Expenses	28,141,021	32,416,305	4,275,284	13.2%		39,776,127
Total Operating Expenditures	101,056,571	105,123,358	4,066,787	3.9%		120,071,056
Investments	2,238,195	3,004,281	766,086	25.5%	20	1,433,070
Service System Management	13,153,632	15,806,101	2,652,469	16.8%	5	156,183
Skills Programs	3,252,659	3,771,760	519,101	13.8%	6	3,356,922
Tuition Holdback Bursaries	1,824,436	1,903,909	79,473	4.2%		2,359,768
Ministry Bursaries	1,150,888	1,000,000	(150,888)	(15.1%)	7	466,966
Special Projects	4,634,126	5,167,459	533,333	10.3%	21	3,924,829
Ancillary Operations	3,562,843	4,362,058	799,215	18.3%	22	5,447,578
Net Asset Adjustment	445,330	0	(445,330)		23	(96,182)
Total Expenditures	\$ 131,318,681	\$ 140,138,926	\$ 8,820,245	6.3%		\$ 137,120,190
Net	\$ (3,361,057)	\$ (11,011,911)	\$ (7,649,423)	69.5%		\$ 2,186,869



Board of Governors

Briefing Note



FLEMING

Topic: 2021-2022 Preliminary Budget – Status Update
Report To: Public Board Meeting
Reviewed by Finance and Audit Committee on May 17, 2021 for final submission to the Board of Governors
Meeting Date: May 26, 2021
Prepared By: Angie Sims, Director, Financial Services and Controllershship
Drew Van Parys, Acting Vice-President, Corporate Services and CFO

Recommendation

That the Board of Governors of Sir Sandford Fleming College, receive for information, the 2021-2022 Preliminary Budget – Status Update.

Overview

At the time of the March 8, 2021 Finance and Audit Committee meeting, the College expected to complete internal budget deliberations and provide a 2021 -2022 budget for the Committee and the Board of Governors to approve during the May meetings for submission to the Ministry of Colleges and Universities by June 30. Subsequent to that meeting, the Ministry, in recognizing the challenging context presented by the ongoing pandemic (in particular the ever-changing landscape for international enrolment) has extended the budget submission deadline to August 31, 2021.

With the continued uncertainty and challenges brought on by COVID-19, College Administration will take advantage of this extension to further review the enrolment outlook and the overall budget projections as we continue to plan for multiple scenarios. We will bring final budget projections for review and approval to the June Finance and Audit and Board of Governors meetings and submit to the Ministry shortly thereafter. We will not wait until August to submit our final budget. The Budget Update process undertaken each fall will have greater importance this year given the circumstances.

We had initially asked that College departments plan to operate in our current status with restrictions for social distancing until at least September. Given the changing circumstances over the past few months, budget submissions were developed with the assumption that restrictions would be in place the entire 2021 -2022 academic year. The expectation for small classroom sections added significant teaching costs into the Fall and Winter from what was expected in our initial proforma planning.

Within our 5-year planning framework, we had originally forecasted our worst-case scenario at a loss of \$5 M (excluding capital/small assets investment projects etc.) This was highly dependent on the outcome of enrolment projections. (Noting that our international enrolment projections are still proving difficult to project and will be monitored closely).

The initial budget submission, using the worst-case scenario, initially came in at a deficit position of \$14 M including investment requests of \$2.7 M with Fall and Winter requiring significantly more PT teaching hours due to anticipated social distancing requirements and smaller classes. College Administration has scrutinized the forecasts and scaled back additional budget requests. This analysis continues.

The winter term will be reassessed using larger classroom sizes, capital/small asset requests will be scaled back to priority requests only and that which attracts grant funding. Staff vacancy replacements along with requests for new hires are also being revisited.

The initial deficit projection does not include the grant relief as announced by the Ministry of Colleges and Universities of \$5.9 M that can offset certain costs for our 2021-2022 first quarter. We have determined that \$3.2 M of the grant can be attributed to cost within 2021 -2022, the balance being recognized in 2020-2021 offsetting our prior year deficit.

From the initial \$14 M deficit budget submission, with the work already completed and preliminary estimates of further revisions, we have reduced our current forecast deficit to \$7.1 M. However, we anticipate further lowering of costs in some areas (Part-time teaching costs and staffing requests in particular) that will further reduce the deficit projection.

We will present a final budget for approval in June.

In addition to the reforecast to provide a 2021-2022 budget, work is underway to update the College cashflow seeing a significant improvement considering the 2020-2021 added grant and expenditure savings. A revised cashflow in advance of an approved budget is attached and will be updated to tie off to final budget. Continued reporting on cashflow will become a routine report.

Alignment with Fleming College's Strategic Direction and the Strategic Mandate Agreement

A prudent and strategic Financial Plan will strengthen Fleming's financial health and sustainability to ensure the achievement of the objectives in our Strategic Plan, our commitments contained in the SMA and enable the College to deliver a strong student experience.

Risks and Considerations

<input type="checkbox"/> External Environment	<input type="checkbox"/> Internal Environment	<input checked="" type="checkbox"/> Financial	<input type="checkbox"/> Human Resources
<input type="checkbox"/> Information Technology	<input type="checkbox"/> Legal	<input checked="" type="checkbox"/> Operational	<input checked="" type="checkbox"/> Strategic
			<input type="checkbox"/> N/A

Supporting Documentation

Include the file names of any supporting documentation below:

- Revised Cashflow Forecast

SIR SANDFORD FLEMING COLLEGE

Revised Cashflow Forecast

21/22 Projections

draft anticipated budget

		as at 31-Mar-21	Q1	Q2	Q3	Q4	Forecast 31-Mar-22
Revenue			31,540,767	39,546,974	34,942,958	32,098,828	138,129,526
Expenditures			30,143,669	33,782,610	36,498,875	43,345,268	143,770,423
Net			1,397,098	5,764,364	-1,555,918	-11,246,440	-5,640,897
CashFlow							
Opening Cash			55,891,883	55,200,120	58,765,355	57,295,473	55,891,883
Change as per Income Statement							
	Operating funds - Net Income		1,397,098	5,764,364	-1,555,918	-11,246,440	-5,640,897
	Non Cash: Amortization in Net Income		1,857,000	1,857,000	1,857,000	1,857,000	7,428,000
	Deferred contribution		-1,128,500	-1,128,500	-1,128,500	-1,128,500	-4,514,000
Balance Sheet							
	LTD principle payments		-24,000	-639,525	-25,000	-639,525	-1,328,049
	Capital Purchases		-2,793,361	-2,288,105	-617,464	-617,464	-6,316,392
Cash Balance			55,200,120	58,765,355	57,295,473	45,520,545	45,520,545
	Cash on Hand	27,453,527	26,761,764	30,326,999	28,857,117	17,082,189	17,082,189
	unrestricted GIC	28,438,356	28,438,356	28,438,356	28,438,356	28,438,356	28,438,356
		55,891,883	55,200,120	58,765,355	57,295,473	45,520,545	45,520,545
Funds not available for Fleming operating							
	FSA SAC (within A/P)	-9,912,495	-9,912,495	-9,912,495	-9,912,495	-9,912,495	-9,912,495
	Restricted cash	-2,025,369	-2,025,369	-2,025,369	-2,025,369	-2,025,369	-2,025,369
Total Cash Available		43,954,019	43,262,256	46,827,491	45,357,609	33,582,681	33,582,681
As previously projected		25,987,179	28,088,777	33,764,005	32,911,587	21,576,012	
add back:							
Cash savings from 2021 statement revenue and expense		7,146,668					
Planned CAWT capital purchases deferred		4,272,790	-2,136,395	-2,136,395	-4,272,790	-4,272,790	
Adjusted year end accruals (AP/AR)		6,547,382					
Adjustment to opening balance		17,966,840	17,966,840	17,966,840	17,966,840	17,966,840	
Less planned capital spend not previously projected			-656,966	-2,766,960	-1,248,028	-1,687,381	
Adjusted Balance		43,954,019	43,262,256	46,827,491	45,357,609	33,582,681	



Board of Governors

Briefing Note



FLEMING

Topic: Comparative Balance Sheet for the year ended March 31, 2021
Report To: Public Board Meeting
Reviewed by Finance and Audit Committee on May 17, 2021 for final submission to the Board of Governors
Meeting Date: May 26, 2021
Prepared By: Angie Sims, Director, Financial Services and Controllershship
Drew Van Parys, Acting Vice-President, Corporate Services and CFO

Recommendation

That the Board of Governors of Sir Sandford Fleming College, receive for information, the College Balance sheet comparatives for the year ended March 31, 2021.

Overview

During the 2020/2021 cycle of Finance and Audit Committee meetings, discussions focused on enhanced monitoring and reporting of cash flow and College reserves in addition to the routine annual budget monitoring. With this, the College balance sheet and cash flow forecasting has become part of the regular reports to be presented. Analysis of the year-end Balance Sheet is being presented to supplement the Internal Statement of Revenue and Expense.

The following highlights describe the Balance Sheet changes during the 2020/21 fiscal year for changes >10% and \$100,000.

- Cash** has increased by \$6.2 million. Further detail on cash is presented within the College Financial Statements (Item 6) through the Statement of Cash Flow. However, the changes are as follows:
 - The deficit of \$3.36 M is comprised of a loss on operating activities of \$0.17 million and a loss on non-cash transactions of \$3.18 million.
 - Capital activities resulted in an increase of \$1.3 million in cash as grants received were higher than expenditures.
 - Financing activities utilized \$1.3 million in cash mainly due to the repayment of long-term debt during the year.
 - Investing activities resulted in an increase in cash of \$12.3 million, due to less funds being held in short-term investments.
- Short-Term Investments** have decreased by \$12.3 million as noted above with the increase in cash. With a number of operating bonds maturing during the year and very low rates of return to re-invest, funds were kept in cash as contingency to have funds available, had the year turned worse than anticipated.
- Grant receivables:** The outstanding balance of \$7.6 million is made up of \$4.2 million relating to the BScN Operating Grant, \$2.8 million relating to the one-time COVID grant and \$0.6 million to other grant funding. The increase over prior year is due to the one-time COVID grant received April 2021.

4. **Accounts receivable:** Has decreased by \$0.7 million with changes in activity and timing of College Contract to Provide Services. This decrease is due to a decrease in the School College Workplace Program receivable of \$1.0, an increase in the Language Instruction for Newcomers to Canada receivable of \$0.2 million as well as a decrease in the Skills Advance Ontario receivable of \$0.1 million.
5. **Accounts payable and accrued liabilities:** Has decreased from the prior year by \$3.2 million mainly due to student refunds payable (residence, parking, part-time courses) in the prior year of \$1.9 million and a general reduction in trade payables, both as a result of the pandemic.
6. **Grants received in excess of entitlements:** The outstanding balance of \$0.7 million represents funds received from MCU that were not earned at March 31, 2021. It includes Skills Advance Ontario funding of \$0.4 million, Service System Manager funding of \$0.1 million and the balance is comprised of various other grants.
7. **Long-term debt:** There are three loans outstanding; Sutherland residence \$7.3 million, Strategic Investment Fund construction projects \$4.7 million and the Peterborough Sport and Wellness Centre \$0.5 million. During the year principal repayments totalled \$1.3 million.
8. **Net assets:** Net assets have decreased by \$3.3 million as a result of the \$3.36 million deficiency of revenue over expenditures less additional endowment of \$28 K and decrease of \$27 K in market value of the derivative liability. The residence operations accounted for \$1.7 million of the deficiency.

Alignment with Fleming College's Strategic Direction and the Strategic Mandate Agreement

Maintaining College financial health with appropriate resource allocation to fund strategic priorities.

Risks and Considerations

<input type="checkbox"/> External Environment	<input type="checkbox"/> Internal Environment	<input checked="" type="checkbox"/> Financial	<input type="checkbox"/> Human Resources
<input type="checkbox"/> Information Technology	<input type="checkbox"/> Legal	<input checked="" type="checkbox"/> Operational	<input type="checkbox"/> Strategic
			<input type="checkbox"/> N/A

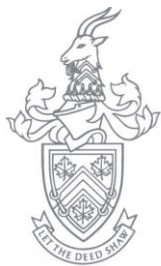
Supporting Documentation

Include the file names of any supporting documentation below:

- Balance Sheet as at March 31, 2021

SIR SANDFORD FLEMING COLLEGE
Balance Sheet
As at March 31, 2021

	Actual To 31-Mar-21	Actual To 31-Mar-20	Change \$	Change %	Notes
Assets					
Current assets:					
Cash	27,453,527	21,294,367	6,159,160	28.9%	1
Short-term investments	37,811,023	50,149,335	(12,338,312)	-24.6%	2
Grants and reimbursements receivable	7,632,735	4,776,648	2,856,087	59.8%	3
Accounts receivable	4,314,267	5,004,210	(689,943)	-13.8%	4
Inventory	56,898	62,272	(5,374)	-8.6%	
Prepaid	2,373,896	2,484,452	(110,556)	-4.4%	
Other	2,430,794	2,546,724	(115,930)	-4.6%	
Current Assets	79,642,346	83,771,285	(4,128,939)	-4.9%	
Capital assets	116,385,680	121,000,179	(4,614,500)	-3.8%	
Total Assets	\$ 196,028,026	\$ 204,771,464	\$ (8,743,438)	-4.3%	
Liabilities, Deferred Contributions and Net Assets					
Current liabilities:					
Accounts payable and accrued liabilities	20,537,744	23,748,454	(3,210,710)	-13.5%	5
Accrued payroll and employee benefits	11,601,021	11,100,335	500,687	4.5%	
Grants received in excess of entitlements	688,058	1,371,546	(683,488)	-49.8%	6
Deferred revenue	19,658,293	20,319,805	(661,511)	-3.3%	
Fleming College Foundation	6,083	5,922	161	2.7%	
Current portion of long-term debt	1,328,049	1,285,385	42,665	3.3%	
	53,819,249	57,831,446	(4,012,197)	-6.9%	
Long-term debt	11,343,258	12,698,308	(1,355,049)	-10.7%	7
Employee future benefits	3,750,000	3,703,000	47,000	1.3%	
Deferred contributions:					
Expense of future periods	2,874,992	2,880,859	(5,867)	-0.2%	
Deferred capital contributions	85,338,755	85,450,187	(111,432)	-0.1%	
	88,213,747	88,331,046	(117,300)	-0.1%	
Net assets:	38,901,772	42,207,664	(3,332,892)	-7.9%	8
Total Liabilities, Deferred Contributions and Net Assets	\$ 196,028,026	\$ 204,771,464	\$ (8,770,438)	-4.3%	



Board of Governors

Briefing Note



FLEMING

Topic: Sexual Violence Prevention Report: 2020-21 Annual Report
Report To: Public Board Meeting
Meeting Date: May 26, 2021
Prepared By: Sandra Dupret, Vice President, Student Experience

Recommendation

That the Board of Governors of Sir Sandford Fleming College receive the Sexual Violence Prevention Report: 2020-21 Annual Report for information.

Overview

Fleming College has had a stand-alone Sexual Violence Prevention (SVP) Policy and Operating Procedures since March 2015. As a requirement of Bill 132, Sexual Violence and Harassment Action Plan Act, the policy has been updated twice since it was first developed. All updates are in line with best practice and based on survivor-centric research. The legislation requires an annual report focused on students to be presented to the Board of Governors. The same legislation requires all post-secondary institutions to publicly post their annual report.

The report must include information on:

- Supports Services and Accommodations for student who experience sexual violence
- Commentary on awareness raising and educational programs offered to students
- Reported incidents of sexual violence impacting students
- Commentary on the implementation and effectiveness of the SVP Policy

Of note, the Sexual Violence Task Force has identified the potential impact of COVID-19 on the reporting data for 2020-21, resulting in a greater variance between this year and previous years.

Alignment with Fleming College's Strategic Direction and the Strategic Mandate Agreement

Fleming College has a shared commitment to be a welcoming place for all. As such, we are following through on our commitments to offer supportive responses to all people who have been impacted by sexual violence. This annual report demonstrates the ways in which we are maintaining a survivor-centric approach while being both preventative and responsive to the needs of our community.

Risks and Considerations

☐ External Environment ☒ Internal Environment ☐ Financial ☐ Human Resources
☐ Information Technology ☒ Legal ☒ Operational ☐ Strategic ☐ N/A

Supporting Documentation

Include the file names of any supporting documentation below:

- Sexual Violence Prevention Annual Report 2020-2021

Fleming College

Sexual Violence Prevention Annual Report 2020-2021

Supports, Services, Accommodations:

Fleming College students impacted by sexual violence, regardless of whether their experience reported is formal or informal, recent or historical, are supported with internal and external supports, services, accommodations and/or referrals. The cases listed in the reported incidents section of this document identify a minimum number of all relevant supports offered. Most frequently accessed supports* for 2020-21 included:

- Campus Safe Walk program provided by Security services; 11 students accessed this risk prevention program from May 2020-March 2021, down from 56 in 2019/20. COVID-19 impacted students accessing this service due to temporary campus closures, reduced on campus activity and on-campus residences at 1/3 capacity;
- Fleming Safe App; 7764 users as of April 14, 2021, up from 4694 users prior to campus re-opening for the final seven weeks of the fall semester. Fleming Safety App services also included 22 students accessing virtual safe walks, and 10 push notifications/safety alerts sent to students;
- Safety plans provided to students on and off-campus;
- Health related services available including referral to the Sexual Violence Response Team at the Peterborough Regional Health Centre (the College provides free transportation to students from all four campuses);
- Counselling services available virtually with a Fleming counsellor, with the Kawartha Sexual Assault Centre, and/or other community resources;
- Assistance for students accessing police services to file a report. Students choosing to file a report at the police station are supported by the College, including transportation and advocacy upon request;
- Referral to Victim Services for justice system support to assist in navigating the justice system, writing victim impact statements, and engaging the criminal injury compensation process; and,
- Academic support, that includes notifying faculty of an “approved” absence under the absence policy without violating the survivor’s privacy and assisting in short-term accommodations.

**This list is not exhaustive; every situation is responded to on a case-by-case basis. Referrals and supports are offered based on the specific needs presented by the individual student.*

Awareness Raising:

Fleming College offers and participates in programs that raise awareness about sexual violence and promote a culture of consent. Programming intentionally draws attention to supports and services available to students through Fleming College and within the community. In 2020-21, the college offered and/or collaborated on the following educational programming and communications:

- **Take Back the Night:** Promoted this virtual event organized by Kawartha Sexual Assault Centre in September, 2020
- **Residence Move-In:** As a reduced number of students were able to live on campus this year (220), educational activities during move-in were limited to a mandatory online session, awareness posters, and a Safe Party Tips educational campaign for Halloween. Residence Life Mentors (student staff) were fully trained in Sexual Violence Prevention Levels One and Two (see table below for description)
- **16 Days of Activism Awareness:** Fleming organized a print poster campaign and a social media campaign designed by a Fleming Visual & Graphic Design student. Open workshops were also held online during the event between November 25th-December 10th
- **Mixed Company Theatre:** this forum theatre company was secured to deliver an engaging online Consent/Bystander Intervention session for students during winter orientation in January 2021
- **Missing and Murdered Indigenous Women, Girls, and Two Spirit Persons:** Indigenous Student Services and Diversity & Inclusion Services partnered to host a week of online events in February 2021 to raise awareness for MMIWGT. The week included an outdoor display of red dresses at Peterborough and Frost campus main entrances and Residence walkways
- **Kawartha Sexual Assault Centre (KSAC) services:** KSAC was contracted to provide virtual workshops on Healthy Relationships and Bystander Intervention, which were organized in partnership with Enactus, a Fleming student club. KSAC also created recorded videos for use in our Orientation programming for new students, addressing "How to Help a Friend Who Discloses" and a KSAC service overview. Fleming and KSAC also began a collaboration on a series of workshops called Young Men Leading Change for racialized male students, which addresses male allyship in ending gender-based violence, which will launch in May 2021
- **Positive Space Education Program:** Diversity & Inclusion Services integrated sexual violence information specific to LGBT2SQ+ youth to their educational programming for student and employees. These workshops were also delivered in an online format throughout the year.
- **Sexual Violence Prevention Website:** this online resource was maintained and promoted, which has information about the College policy, facts and myths, FAQ, online reporting tool (can be anonymous), internal and external support services, and training options. This includes three clickable flowcharts - online tools for faculty, staff or students to use to navigate through how to receive a disclosure, what happens after a disclosure is made, and what to do if you witness sexual violence.

- **Online training development:** Fleming secured a licensing agreement with Concordia University for access to and modifications of their online training module “It Takes All of Us—Creating a Campus Community Free of Sexual Violence”. This module will be mandatory for all students beginning fall 2021. The program will address four themes: understanding sexual violence, consent, bystander intervention, and responding to a disclosure. A subsequent plan to develop an on-line training module for staff will be established during 2021-22.

2020-21 Workshops/Training:

During the 2020-2021 academic year, Fleming provided 37 total workshops for students and employees to approximately 904 people.

Target group and type of session	Sexual Violence Prevention Level 1: Informed Support	Sexual Violence Prevention Level 2: Bystander intervention	Healthy Relationships/ Healthy Sexuality Workshops	MENding or Young Men Leading Change Series (men only)	Positive Space Training (marginalized sexuality & gender minorities)
Residence Life Staff	X	X			X
Students in Residence (mandatory)	X	X			
Coaches & Athletes * (mandatory)					
Faculty Onboarding	X				X
Security*					
Classroom Sessions	X	X	X	X	X
Open Sessions	X	X	X	X	X

** Mandatory workshop for student-athletes and coaches was not implemented due to the cancelation of Varsity sports for the 2020-21 academic year.*

** Security training planned for summer 2021 for new security and refresher for current security*

Reported Incidents:

The Sexual Violence Task Force has identified the potential impact of COVID-19 on the reporting data for 2020-21, resulting in a greater variance between this year and previous years. Prior to 2020-21, reporting statistics indicated an ongoing increase in disclosures since the implementation of the stand alone Sexual Violence Prevention policy in 2015. It is presumed that increasing statistics correlates to the increase in education and awareness aligned with a survivor-centric policy that supports people impacted by harm to come forward. National data on sexual violence disclosures suggests consistent, unchanging rates of sexual violence over the last 50+ years (Conroy & Cotter, 2017), meaning harm is likely to have always been happening in our communities, but now institutions are more aware, and as such, is in a better position to provide supportive responses.

Incident Reporting 2020-21

Formal or Informal Reports	Formal Reports		Informal reports	
	2020-21	2019-20	2020-21	2019-20
Spring Semester	1	3	4	7
Fall Semester	0	8	1	18
Winter Semester	2	11	3	13
TOTAL	3	22	8	38

Domestic or International	2020/21		2020/21	
	Domestic	International	Residence	Off-Campus
Spring Semester	4	1	0	5
Fall Semester	1	0	1	0
Winter Semester	3	2	0	5
TOTAL	8	3	1	10

Campus	2020/21	
	Sutherland	Frost
Spring Semester	2	3
Fall Semester	1	0
Winter Semester	4	1
TOTAL	7	4

Category of incidents 2020-21

	Sexual Assault		Sexual Harassment		Voyeurism		Indecent Exposure		Sexual Exploitation		Stalking	
	2020-21	2019-20	2020-21	2019-20	2020-21	2019-20	2020-21	2019-20	2020-21	2019-20	2020-21	2019-20
Formal	1	7	1	11	0	0	0	2	0	0	1	2
Informal	1	15	4	11	0	0	1	3	1	5	1	4

Implementation and Effectiveness of the Policy:

The Sexual Violence Prevention Policy and its corresponding operating procedures are implemented immediately upon disclosure of sexual violence across all four College campuses. Though we cannot undo the harm that has been caused, we respond to each situation honouring the dignity and right of choice for each person impacted by harm. This survivor-centric approach allows people to engage in education, support, and reporting options in ways that make the most sense for them. By offering consistent implementation of our policy, which is based on best-practice and survivor feedback, Fleming can offer effective responses, reflecting the unique needs of individuals involved in each situation.

Reference:

Conroy, S., & Cotter, A. (2017). *Self-reported sexual assault in Canada, 2014*. [Catalogue no. 85-002-X]. Ottawa, ON: Statistics Canada. Retrieved from https://www150.statcan.gc.ca/n1/en/pub/85-002-x/2017001/article/14842-eng.pdf?st=U_8u-A4

Appendix A: Sexual Violence Definitions

Sexual Violence:

Any sexual act(s) targeting a person's sexuality, gender identity or gender expression, whether the act is physical or psychological in nature, that is committed, threatened or attempted against a person without the person's consent, and includes sexual assault, sexual harassment, stalking, indecent exposure, voyeurism and sexual exploitation. Instances of sexual violence covered by this policy include those that occur in person, through a third party, by telephone, and online.

Sexual Assault:

Sexual assault is any type of unwanted sexual act done by one person to another that violates the sexual integrity of the victim and involves a range of behaviours from any unwanted touching to penetration. Sexual assault is characterized by a broad range of behaviours that involve the use of force, threats, or control towards a person, which makes that person feel uncomfortable, distressed, frightened, threatened, or that is carried out in circumstances in which the person has not freely agreed, consented to, or is incapable of consenting to sexual activity.

Sexual Harassment:

"Engaging in a course of vexatious comment or conduct that is known or ought to be known to be unwelcome." (Section 10 of Human Rights Code). Depending on the circumstances, one incident could be significant or substantial enough to be sexual harassment. This can include conduct, comment, and/or gesture relating to sex or sexuality.

Voyeurism:

Observing unsuspecting people while they undress, are naked, or engage in sexual activities. A key element of voyeurism is that the person being watched does not know they are being observed. The person is typically in a place where they have a reasonable expectation of privacy, such as their home or other private area.

Indecent Exposure:

Intentionally showing one's sexual organs or engaging in a sexual act while in public.

Sexual Exploitation:

Leveraging power, trust or authority over a person in relation to sexuality.

Examples of sexual exploitation could include:

- Allowing another to observe consensual sexual activity, or sexual imagery without the knowledge and consent of all parties involved
- Prostituting another individual
- Exposing another's sex-organs in non-consensual circumstances
- Inducing incapacitation for the purpose of making another person vulnerable to non-consensual sexual activity
- Engaging in, or soliciting sexual activity, when the initiating party is in a position of power/trust or authority

Stalking:

Willfully engaging in a course of conduct directed at a person that serves no legitimate purpose and seriously alarms, annoys, or intimidates that person (such as repeatedly following or harassing a person).



Board of Governors

Briefing Note



Topic: Indigenous Fleming May 2021 - Biannual Report
Report To: Public Board Meeting
Meeting Date: May 26, 2021
Prepared By: Sandra Dupret, Vice President Student Experience and
Linda Poirier, Vice President Academic Experience

Recommendation

That the Board of Governors of Sir Sandford Fleming College receive the May 2021 Indigenous Fleming Biannual Report for information.

Overview

The Indigenous Fleming report demonstrates Fleming's commitment to its Honouring the Rights of Indigenous Peoples policy. This report is generated biannually at the request of the Board of Governors to provide an update of College activity.

The report overviews the Joint objectives for 2020-2021 identified by Indigenous Academics and Indigenous Student Services (ISS) to meet the commitments identified in the Strategic Plan, Business Plan, Academic Plan and Indigenous Education Protocol, and ensure that College continues to be recognized as a leader in Indigenous education. The six objectives below are detailed in the report, ensuring that Fleming is meeting its core commitments of being a welcoming place for all and a true community partner.

1. Incorporating Indigenous Perspectives
2. Increase Academic Partnerships focused on Indigenous Knowledge
3. Develop Indigenous Student and Indigenous Perspectives Designation Recruitment Plan in partnership with Marketing Department
4. Increase Indigenous representation on Program Advisory Committees
5. Create, Deliver & Maintain Programs that support Indigenous Learners.
6. Internal & External Partnerships

Alignment with Fleming College's Strategic Direction and the Strategic Mandate Agreement

We will be a welcoming place for all.

Strengthen our relationship with Indigenous Peoples by helping to create opportunities in post-secondary education, and actively participating in the process of reconciliation by ensuring all students and staff gain a deeper understanding and appreciation of Indigenous Peoples, their ways of knowing and histories.

We will be true partners in our communities.

Establish a Student Experience Strategy to ensure an outstanding experience and success for students upon graduation. We will improve career and support services, renew our facilities and a focus on student life and well-being on campus and in our communities.

Risks and Considerations

☐ External Environment ☐ Internal Environment ☐ Financial ☐ Human Resources
☐ Information Technology ☐ Legal ☐ Operational ☒ Strategic ☐ N/A

Supporting Documentation

Include the file names of any supporting documentation below:

- Indigenous Fleming Report - May 2021

Indigenous Fleming Report – May 2021

Prepared by:

Liz Stone, Academic Chair, Indigenous Perspectives
Ashley Safar, Manager, Indigenous Student Services

Background

Indigenous Fleming, identifies the Academic & Service initiatives, projects and commitments that Fleming College is currently engaged in to meet the commitments identified in the Strategic Plan, Business Plan, Academic Plan and Indigenous Education Protocol, respectively. Specifically identified in the strategic plan:

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Strengthen our relationship with Indigenous Peoples by helping to create opportunities in post-secondary education, and actively participating in the process of reconciliation by ensuring all students and staff gain a deeper understanding and appreciation of Indigenous Peoples, their ways of knowing and histories.

We will be true partners in our communities.

Establish a Student Experience Strategy to ensure an outstanding experience and success for students upon graduation. We will improve career and support services, renew our facilities and a focus on student life and well-being on campus and in our communities.

As a result of Fleming's commitment to Honouring the Rights of Indigenous Peoples and working with our Indigenous communities, the college is honoured to have been selected by Colleges and Institutes Canada (CICan) as the 2020-21 silver recipient of the Indigenous Education Excellence Award.

Candidates from across the country for this award had to meet a number of criteria including:

- Institutional commitment to making Indigenous education a priority
- Relationship building with Indigenous communities
- Respect for intellectual and cultural traditions
- Understanding and reciprocity among Indigenous and non-Indigenous peoples
- Services and learning environments that are Indigenous-centred and holistic

Joint objectives for 2020-21 have been identified by Indigenous Academics and Indigenous Student Services (ISS) to meet the commitments identified in the Strategic Plan, Business Plan, Academic Plan and Indigenous Education Protocol, and ensure that college continues to be recognized as a leader in Indigenous education. The six objectives outlined will ensure that Fleming is meeting its core commitments of being a welcoming place for all and a true community partner.

Fleming College's commitment to the Indigenous education Protocols, specifically #5 – the commitment to increasing the number of Indigenous employees with ongoing appointments throughout the institution, including Indigenous senior administrators is demonstrated in our current employee compliment.

Indigenous voices and perspectives are important to successfully meet objectives. The College continues to focus on diversifying and better balance our workforce with indigenous voices across the organization. Indigenous Academics and ISS specifically focus on the recruitment and hiring of Indigenous peoples. Current staffing compliment includes:

Student Experience 6 employees

- 1 FT ISS Coordinator
- 1 PT Coordinator (vacant)
- 1 Student Transition Advisor
- 1 ISS Manager
- 2 Bishkaa Student Ambassadors

Academic Experience 27 employees (4 Schools)

- 7 FT Faculty
- 19 PT Faculty
- 1 Academic Chair

Fleming College also relies on support and guidance from our Indigenous Education Council (IEC). The IEC represents the interests and concerns of local Indigenous communities and is committed to developing and supporting Indigenous education aspirations through curriculum, programs, services and research, that meets the needs of Indigenous and non-Indigenous students, faculty and staff at the college. IEC meets four times a calendar year and are important to ensuring we meet our objectives.

Objective #1 – Incorporating Indigenous Perspectives

Target: 5 NEW Indigenous Perspectives Designation Programs

These activities align with Academic Action Plan Objectives (12), Business Plan (5.2.1) by being collaborative as well as including accountability. Aligning with the recently approved Indigenous Perspectives Designation (IPD) policy, expanding programs ensures that the needs of students and employers are met while empowering faculty with thoughtful and authentic Indigenous curricular content. Providing quality education for students while honouring Fleming's commitment to the CICan Indigenous Education Protocol.

1. 5 new IPD programs to be introduced for September 2021
2. Marketing strategy developed
3. Creation of IPD Tool Kit to support program team and Academic Chair

Objective #2 – Increase Academic Partnerships focused on Indigenous Knowledge

Target: 1 NEW Academic Agreement 2020-21

These activities support the Strategic Plan and Business Plan (5.2.2), the incorporation of Indigenous Academic opportunities for all students will not only provide a welcoming place for all, but also support active contribution to reconciliation. Providing quality education for students while honouring Fleming's commitment to the CICan Indigenous Education Protocol.

1. Academic agreement signed Fall 2020 with Kenjigewin Teg (Manitoulin Island) to deliver Practical Nursing program (hybrid model) beginning Spring 2021
2. Hire faculty to deliver in person components on Manitoulin Island - 2 faculty hired are Indigenous and based on Manitoulin Island
3. Practicum agreements signed with Indigenous Community Services and Hospitals on Manitoulin Island
4. Create support system for Indigenous learners, relevant to remote learning, including *Circle of Support* for students, created in partnership with Kenjigewin Teg, Wikwemikoong Student Support Services and Indigenous Student Services Fleming

Objective #3 – Develop Indigenous Student and Indigenous Perspectives Designation Recruitment Plan in partnership with Marketing Department.

Target: Create recruitment opportunities for Indigenous students with the goal of increasing Indigenous student enrolment to >500 and increase Indigenous Perspectives Designation enrolment

This objective supports the Strategic Plan and Business Plan (5.2.2 & 5.2.3), the incorporation of Indigenous specific recruitment activities will not only provide a welcoming place for all, but also support active contribution to reconciliation. Providing quality education for students while honouring Fleming's commitment to the CIGan Indigenous Education Protocol.

1. 513 self-identified students for 20/21 Academic Year
2. Virtual recruitment sessions scheduled for Indigenous communities, prospective students and Education Counsellors May 2021
3. The Aboriginal Post-Secondary Information Program (APSIP) recruitment activities (November-January 2020)
4. Internal self-identification campaign to better track Indigenous enrolment
5. Recruitment for IPD students include:
 - Virtual Recruitment Session Scheduled for May 11, 2021, inclusive of current and new students enrolled in IPD Programs
 - Working with Marketing to develop a user-friendly Indigenous Fleming landing page that includes Indigenous Academics and Student Services
 - Development phase of an Indigenous viewbook incorporating all Indigenous activities

Objective #4 - Increase Indigenous representation on Program Advisory Committees.

Target: Develop a Recruitment Plan to increase Indigenous representation on 5 Program Advisory Committees (PAC) and include Indigenous representation within the New Program Development process

These activities support the Strategic Plan and Business Plan (5.2.4), an initiative to increase employment rates among Indigenous student population, including appropriate representation on Program Advisory Committees. Activities provide a welcoming place for all, as well as support active contribution to reconciliation. Providing quality education for students while honouring Fleming's commitment to the CIGan Indigenous Education Protocol.

1. Identified 9 Program Advisory Committees with relevant Indigenous representation: Justice Programs (3), Community Development (3) and School of Environmental and Natural Resource Sciences (3)
2. Two newly developed programs have included Indigenous representation within the School of Trades and Technology, and the School of Environmental and Natural Resource Sciences

Objective #5 – Create, Deliver & Maintain Programs that support Indigenous Learners.

Target: Transition and expand Indigenous Student Services programs to support virtual delivery

These activities support the Strategic Plan, Academic Plan (23) and Business Plan (5.2.2.), the incorporation of Indigenous Academic opportunities for all students will not only provide a welcoming place for all, but also support active contribution to reconciliation. Providing quality education for students while honouring Fleming's commitment to the CIGan Indigenous Education Protocol.

1. All services successfully delivered online:
 - Annual Indigenous Awareness Week
 - MIIWGT2S Awareness Week – included an on-campus red-dress exhibit
 - 'Introduction to Anishinaabemowin' online language classes
 - Firekeeping Fridays
 - WebEx drop-ins with ISS staff and peer mentors
 - Bishkaa program activities
 - Métis programming in collaboration with Métis Nation of Ontario
2. New programs include:
 - Fleming Mobile App – creation of virtual chat platforms for Indigenous students and Bishkaa program participants & mentors
 - Indigenous Enough Series – delivered by Indigenous Student Success Network
 - Inuit cultural programming with new Elder and Knowledge Holder, Naulaq LeDrew

Objective #6 – Internal & External Partnerships

Target: Creation of new Internal and External partnership initiatives

These activities support the Strategic Plan, Academic Plan (20) and Business Plan (1.1.2. 5.2.2), the incorporation of Indigenous Academic opportunities for all students will not only provide a welcoming place for all, but also support active contribution to reconciliation. True and authentic partnerships have made a positive impact in both the Indigenous, non-Indigenous communities as well as internally and externally.

New partnerships demonstrating Fleming's commitment to Honouring the Rights of Indigenous Peoples include:

1. Human Resources: Professional Development/Training
2. Office of Applied Research: CIGan Award Proposal
3. Labour Market Research: Future Skills Centre
4. Procedure Development: Indigenous Academic Partnerships, Miigwewin, Smudging Procedures
5. Urban Indigenous Covid Vaccination Clinics (PPH & HKPR Health Unit Districts)



PRESIDENT'S REPORT

May 2021 - Public Board Meeting

The following is a summary of key updates of the President to the Board of Governors since the March 2021 Board meeting.

College System Update

College Presidents have been meeting on a regular basis to discuss key issues related to educational delivery methodologies in the fall and winter semesters, vaccination requirements for students and staff, and improved collaboration among college Presidents.

Most colleges are employing a hybrid delivery model similar to Fleming College. International enrolment remains problematic for all colleges.

There has been much discussion of whether or not colleges can ask for proof of vaccination for anyone entering campus. Fleming did seek a legal opinion regarding this matter and the advice received indicated that there are many risks to implementing such a process. Other colleges are looking to the USA where colleges are demanding proof of vaccination; a different legislative system but one that is being looked to for guidance.

There has been some discourse among the Presidents largely related to private career colleges and those colleges that have not complied with their enrolment caps. A full day discussion was held to explore how colleges could work together better. The discussion also included colleges in Ontario as a system versus a collection of institutions.

Government Relations

Ross Romano, Ministry of Colleges and Universities attended the most recent Presidents meeting. Presidents lobbied for 3 year degrees. He was unreceptive.

Laurie Scott requested a one-page update regarding the progress of our System Service Management initiative; the purpose was not provided.

Fleming Strategy

Fleming continues to meet the goals and targets of the five year Strategic Plan. The recovery plan continues to evolve most notably with the decision regarding the private career college that Fleming will contract with has been made. Further, the MOU with the Municipality of Dysart, et al is being recommended for approval to the Board, and potential financing models are under development for the Haliburton residence and reimagining Sutherland campus, post Covid-19.

Fleming Operations

Flemings audited statements received an unqualified opinion (more details under separate item). Three scenarios have been built for enrolment and educational delivery for fall and winter 2021/22 that include associated net revenue projections.

A digital strategic plan is underdevelopment and the Registrars Office continues to strive for improved processes with the support of IT and the Senior Team.

A return to work strategy is also under development that will contemplate permanent work from home arrangements for specific roles that are based on the nature of work.

In Our Community.

Many of these events are highlighted on [social media](#) (my Twitter feed is @Fleming_Pres) but highlights include:

Virtual Events:

Minister Romano's virtual announcement on micro-credentials policy – April 22, 2021

- Attended the invite-only virtual event in advance of the Ministry announcement
- Ministry hosts an embargoes meeting with key stakeholders to walk through the micro-credentials policy

Innovation and Technology Showcase in Partnership with Bell – April 29, 2021

- Virtually kicked off the 2021 Innovation and Technology Showcase.
- This event celebrates the dedication and energy students bring to help partners in our communities find innovative solutions to business and technology challenges. Students in business and technology programs gain real-world experience delivering a final project and competing for top prize money.
- Watch the Showcase [here](#).

College and City of Peterborough Liaison Meeting – May 6, 2021

- Members of Fleming's Senior Management Team were joined by Peterborough Mayor Therrien, Councillor Zippel and Councillor Parnell to discuss College/City updates, partnerships, and future projects

Social Media Highlights:

- Fleming College is very grateful for the continued investment in student success and the recognition of the important role colleges will play in the pandemic recovery. [@ONtrainandstudy @RossRomanoSSM @DaveSmithPTBO @LaurieScottPC @DavidPiccini](#)
- Fleming College is proud to announce the launch of our Equity, Diversity, and Inclusion (EDI) Council as part of our commitment to being a welcoming place for all. Read more here: <https://bit.ly/3IDQDWh>
- [#FlemingHeroes](#) doing their part and looking after our loved ones. Well done! [#FlemingSafe](#)
- Fleming launches Plumber Apprenticeship program [#Apprenticeships #Plumbing @FlemingCollege #CdnPSE #HigherEd #Education](#) | Read More: <http://ow.ly/oiKm50EdHJw>
- Thank you [@FlemingSAC](#) President Zoe King for your support and important message. Step up, protect yourself and those around you. [#FlemingSafe #COVID19](#)
- Our commitment to the Indigenous community is embedded in our values at Fleming. Through this project & the investment from the Future Skills Centre, we aim to research & test a new tool that will encourage & support Indigenous participation in the labour market. [@fsc ccf en](#)
- You got this, Fleming! [#FlemingStrong #FlemingSafe](#)

- Dr. Pinsky vaccinates her younger sister today who has managed through cystic fibrosis. Love and admiration to the Pinsky family. May we all have some of your tenacity! [@CFCanada](#) [@sickkids](#) [@StMichaelsFdn](#) [#CovidVaccine](#)
- Good governance is alive and well [@FlemingCollege](#). <https://flemingcollege.ca/about-fleming/board-of-governors>
- The mental health of our students & staff is a priority for us at Fleming & the need for those supports is greater now more than ever. We are grateful to the [#BellLetsTalk](#) Fund for their contribution as this grant will add value to the resources being offered at the college.
- On [#WorldCreativityandInnovationDay](#), we're extending a huge congratulations to the top 10 finalists in the 2021 Innovation and Technology Showcase in partnership with
- [@Bell](#). Check out the full list here: <https://flemingcollege.ca/innovation-technology-showcase...>
- Fleming is committed to being a welcoming place for all, on our campuses, in our virtual classrooms, and in the communities we serve. Being a member of our community comes with responsibility to ensure all members feel welcome and safe. [#FlemingSafe](#) [@FlemingCollege](#)
- This is what being a public asset is all about. Congrats to our 26 [@PharmTechProg](#) students who are now Injection Certified. We are tremendously proud of your efforts to support our community and the fight against [#COVID19](#) [#FlemingSafe](#) [#FlemingProud](#)
- On National [#DayOfMourning](#), we remember those who have lost their lives, become injured or suffered illness as a result of a workplace incident. Let's work together to prevent workplace tragedies before they happen. [#DayOfMourning](#)
- This recognition is a reaffirmation of the work we've put in over the last few years. What I believe sets us apart is our vision of making Fleming College a welcoming place for all. It is not something we take lightly, and it's a key commitment in our strategic plan. [@CollegeCan](#)
- Someone who I admire deeply [@RobertaBondar](#) has a powerful message. Let's get back safely to doing the things we love. [#ThisIsOurShotCA](#) [@thisisourshotca](#) [#FlemingSafe](#)
- We're excited to partner with [@SenecaCollege](#) to provide Fleming graduates with new opportunities to further their [#postsecondary](#) education.
- Fleming, Seneca partner to create pathways for Fleming students [#CDNPSE](#) [#HigherEd](#) [#Education](#) [@FlemingCollege](#) [@SenecaCollege](#) | Read More: <http://ow.ly/jbEu50EHxUj>

Fleming in the News

Pathway agreement with New Capilano University

Education News Canada | March 22

[A new 2 + 2 block agreement - New Capilano University and Fleming College agreement allows diploma graduates to complete a degree in tourism management](#)

Academica | March 23

[CapilanoU, Fleming announce tourism 2+2 agreement](#)

Foodservice and Hospitality Magazine | April 1

[Capilano University and Fleming College Create Continuing-Education Partnership](#)

Equity, Diversity and Inclusion (EDI) Council

NationTalk | March 23

[Fleming College commits to being a welcoming place for all by establishing Equity, Diversity and Inclusion Council](#)

Education News Canada | March 24

[Fleming College - Fleming College commits to being a welcoming place for all by establishing Equity, Diversity and Inclusion Council](#)

Multicultural Showcase

PtboCanada | March 24

[Fleming College Hosts Digital Multicultural Showcase](#)

NationTalk | March 24

[Fleming presents Multicultural Showcase to celebrate cultures and traditions from around the world](#)

Plumber Apprenticeship program

PTBO Today | March 31

[Fleming College launches new Plumber Apprenticeship Program](#)

Academica | April 1

[Fleming launches Plumber Apprenticeship program](#)

Daily Commercial News | April 6

[Fleming College introduces new plumber apprenticeship program](#)

Mechanical Business Magazine | April 7

[Fleming College launches plumbing apprenticeship program](#)

New pathways with Limerick Institute of Technology

PTBO Today | April 9

[Fleming College partners with Limerick Institute of Technology in Ireland](#)

Academica | April 12

[Fleming, LIT sign agreement to expand academic pathways | Academica Group](#)

GoNorthumberland.ca | April 13

[Fleming College partners with Limerick Institute of Technology in Ireland](#)

Innovation & Technology Showcase in partnership with Bell

Education News Canada | April 21

[Fleming College - Fleming College presents 2021 Innovation & Technology Showcase in partnership with Bell](#)

PtboCanada | April 21

[Fleming College Hosts Technology Showcase To Help Community Businesses](#)

Peterborough Examiner | May 9

[Otonabee Ward: Student teams win Fleming innovation competition](#)

CICan Indigenous Education Excellence Award

NationTalk | April 30

[Fleming College the silver recipient of CICan Indigenous Education Excellence Award](#)

Education News Canada | April 30

[Fleming College - Fleming College the silver recipient of CICan Indigenous Education Excellence Award](#)

Diploma to degree pathways with Seneca

PTBO Today | May 7

[Fleming College and Seneca College expanding partnership](#)

Academica | May 10

[Fleming, Seneca partner to create pathways for Fleming students](#)

Article on carbon sequestration

CBC | May 14

[When it comes to sucking up carbon, not all trees are equal](#)

Skills Ontario Competition medalists

PTBO Today | May 17

[Fleming College impresses at Skills Ontario Competition | PTBO Today](#)

Education News Canada | May 17

[Fleming College - Fleming students win top awards in the province at Skills Ontario Competition](#)
