

Fleming College

Board of Governors November 2019 - Public Meeting

Meeting Date:	November 27, 2019
Meeting Time:	Lunch 12:00 p.m Room 123 Meeting 1:00 p.m Boardroom 252
Meeting Location(s):	Frost Campus, 200 Albert St. S. Lindsay, ON K9V 5E6 Lunch in Room 123, Meeting in Boardroom 252

Guest - Brett Goodwin D pages 46 - 47

Guest - Brett Goodwin D pages 48 - 49

Non-Profit Housing Management Guest - Jennifer Olauson D pages 50 - 51

Foundations of Aquaculture

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Meeting Agenda

1.	Call to Order, Welcome to the Traditional Territ	tory and Confirmation of Quorum	2 min
2.	Declaration of Conflict		1 min
3.	Approval of Meeting Agenda		1 min
4.	 4. Consent Agenda The following items will be addressed through the Consent Agenda unless specifically requested to be removed for separate attention, by request. 4.1 – Minutes of the September 25, 2019 Public Meeting (for approval) () pages 3 – 6 4.2 – Investment Portfolio Review (for information) () pages 7 – 33 4.3 – Financial Position as of September 30, 2019 (for information) () pages 34 - 38 4.4 – Financial Position as of October 31, 2019 (for information) () pages 39 - 42 Items 4.2 – 4.4 from the Finance and Audit Committee 		4 min
5.	Business Arising (not otherwise covered)		2 min
Decisio	on Items		
6.	 New Program Proposals Adaptive Forest Management Guest – Brett Goodwin () pages 43 - 45 Environmental Communication 	T. Phillips and Guests	20 min

7.	Program Modification - Advanced Water Systems and Operations Management pages 52 - 53	T. Phillips Guest - Brett Goodwin	5 min
8.	 Final Program Proposals Artificial Intelligence & Virtual Reality pages 54 - 102 Applied Data Analytics pages 103 - 153 	T. Phillips Guest - Pam Stoneham	10 min
9.	Sexual Violence Prevention: Annual Report	S. Dupret	10 min
10.	Student Tuition Fees	D. Van Payrs	10 min
11.	Interim Budget Update and Year End Budget Projections pages 164 - 179 From the Finance and Audit Committee	F. Clifford Guest - Angie Sims	10 min

Information Items

12.	Enterprise Risk Management - Status Report lippages 180 - 184 From the Finance and Audit Committee	F. Clifford Guest - Angie Sims	5 min
13.	Draft Academic Plan and Consultation Summary l) pages 185 – 203	T. Phillips	10 min
14.	Frost Campus Update For Presentation	Guest – Brett Goodwin	10 min
15.	Fall 2019 Enrolment Update I pages 204 - 206	R. Srdic	10 min
16.	Executive Suite Update pages 207 - 214	M. Adamson Guest – Terry Williams	5 min
17.	Report from the President pages 215 - 219	M. Adamson	10 min
18.	Report from the Board Chair	D. Marinigh	5 min

Discussion Items

19. Other Business

5 min

Adjournment approximately 3:15 p.m.



Fleming College

Board of Governors

Public Meeting Minutes

Meeting Date:Wednesday, September 25, 2019Meeting Time:1:00 p.m.Meeting Location:Brealey Campus - Scholfield Boardroom, Room B3330

Meeting Attendance

Present: Mr. Dan Marinigh, Board Chair Ms. Katherine Maclver, Vice-Chair Mr. Fred Clifford Mr. Ben Currelly Mr. Paul Downs Ms. Allison Galbraith Ms. Nicole Grady Mr. Mike Leonard Ms. Mary Lou McLean Mr. Thom Luloff Ms. Cathy Praamsma Ms. Maureen Adamson, President Senior Administration: Ms. Sandra Dupret, Vice President, Student Experience Mr. Roger Fitch, Chief Information Officer Ms. Sherry Gosselin, Director Project Management and Institutional Research Ms. Roni Srdic, Registrar Dr. Tom Phillips, Vice President, Academic Experience Ms. Sherry Taylor, Vice President, Organizational Effectiveness and Human Resources Mr. Drew Van Parys, Executive Director, Marketing and Recruitment Dr. Brent Wootton, Vice President, Applied Research and Innovation Guests: Dr. Brett Goodwin, Dean & Principal, School of

Environmental and Natural Resource Sciences Mr. Jason Jackson, Academic Chair, School of Trades & Technology Ms. Pam Stoneham, Dean, School of Trades & Technology Regrets: Dr. Aaron Grant Ms. Rosemarie Jung

Administrative Support: Ms. Sarah Beirness, Manger Governance, Policy and FOI

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

The Chair called the meeting to order at 1:33 p.m. and acknowledged that the Board of Governors is holding the meeting on the traditional lands of the Mississauga and Anishinaabe peoples.

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

2. Welcome to New Governors

The Chair welcomed new Board members, Ben Currelly, Thom Luloff and Allison Galbraith and returning Board member Paul Downs.

3. Declaration of Conflict

Ms. McLean declared a conflict with the 'Public Infrastructure Asset Management – New OntarioLearn Program' item 9 on the agenda. Ms. McLean will excuse herself for this item.

4. Approval of Meeting Agenda

Moved by Mr. Clifford and seconded by Mr. Downs that the Board of Governors of Sir Sandford Fleming College approve the agenda of the September 25, 2019 public meeting as presented. <u>Carried</u>

5. Consent Agenda

Moved by Ms. Praamsma and seconded by Mr. Currelly that the Board of Governors of Sir Sandford Fleming College approve the consent agenda for the September 25, 2019 meeting and, through this consent:

- approve the Minutes of the June 26, 2019 Public Meeting; and
- receive the Quality Assurance Dashboard as of September 2019 for information.

Carried

6. <u>Business Arising</u> None identified.

Decision Items

7. Animal Care and Welfare Policy

The Chair welcomed Dr. Phillips and guest Dr. Goodwin to present a new College policy titled "Animal Care and Welfare". The policy was designed to clarify and provide structure to animal care across Fleming College and address, in-part, the Canadian Council on Animal Care (CCAC) recommendations from their review which occurred May 30, 2018

Moved by Mr. Luloff and seconded by Mr. Downs that the Board of Governors of Sir Sandford Fleming College approve the College policy "Animal Care and Welfare" for implementation January 1, 2020.

8. Computer Engineering Technician Program Revision

The Chair welcomed Dr. Phillips and guests, Ms. Stoneham and Mr. Jackson. Computer Engineering Technician program standards recently underwent a review by the Ministry of Colleges and Universities

and as a result of the review the Ministry developed new program standards. Fleming College's Computer Engineering Technician program must undergo program revisions to satisfy the new Ministry program standards. The changes would be in effect as of January 2020.

Moved by Ms. Grady and seconded by Ms. Praamsma that the Board of Governors of Sir Sandford Fleming College approve the Computer Engineering Technician program curriculum re-design as required to align with the Ministry of Colleges and Universities program standards. <u>Carried</u>

9. Public Infrastructure Asset Management - New OntarioLearn Program

Ms. McLean excused herself. The Chair welcomed Dr. Wootton who presented the final business case for the Public Infrastructure Asset Management OntarioLearn program. The program is a Fleming College certificate which will be part of the OntarioLearn consortium. By approving this new program Fleming College will lay claim to the asset management specialization and will be the first to offer this to market through OntarioLearn.

Moved by Mr. Luloff and seconded by Mr. Clifford that the Board of Governors of Sir Sandford Fleming College approve the Public Infrastructure Asset Management OntarioLearn program for implementation Winter 2020. Carried

10. Sexual Violence Prevention Policy #3-343

The Chair welcomed Ms. Dupret. The Sexual Violence Prevention policy was reviewed after 2 years in implementation. Following consultation with student government, internal and external stakeholders and legal counsel it was determined that the policy required changes. Policy changes were outlined in the briefing note provided. As part of the legislative requirements this policy will need to be reviewed every 2 years.

Moved by Ms. MacIver and seconded by Mr. Leonard that the Board of Governors of Sir Sandford Fleming College approve the revised #3-343 Sexual Violence Prevention policy for implementation on October 1, 2019. Carried

11. Board Objectives 2019/2020

The following were proposed as the Board's objectives for 2019/2020:

- 1. Oversee Strategic Plan annual outcomes
- 2. Implement ongoing Board education program
- 3. Implement a Board engagement plan
- 4. Create a succession / nomination plan for the Board (through the Governance Committee)
- 5. Adoption / creation of new Board polices and operating procedures (as needed)

It was recommended that objective 5 be removed and instead include the following opening statement: "The Board of Governors of Sir Sandford Fleming College will uphold their fiduciary duties, and in addition to, achieve the following objectives..."

Moved by Ms. MacIver and seconded by Mr. Clifford that the Board of Governors of Sir Sandford Fleming College approve the Board Objectives for 2019/2020 as amended. <u>Carried</u>

Information Items

12. Program Efficacy Review - Update

The Chair welcomed Dr. Phillips who provided an update on program efficacy review and indicated that final recommendations for suspended programs will be brought forward at the November 27, 2019 Board meeting.

Moved by Ms. Grady and seconded by Mr. Leonard that the Board of Governors of Sir Sandford Fleming College receive the program efficacy review update for information. <u>Carried</u>

13. Update from the Board Chair

The next Public Board meeting will be November 27, 2019 at our Frost Campus beginning at 12pm. The Fleming College Foundation approved a new By-Law on August 9, 2019. As per the new By-Law Fleming College Governors (both internal and external) are considered "members" of the Fleming College Foundation and will be included in meetings of the members as defined within By-Law 1.

Moved by Ms.MacIver and seconded by Mr. Downs that the Board of Governors of Sir Sandford Fleming College receive the Board Chair's report for information. <u>Carried</u>

14. New Board of Governors - Members Only Webpage

The Board Chair welcomed Ms. Beirness who provided the Board with an interactive overview of the new members only website and its enhanced features.

Moved by Ms. Grady and seconded by Ms. Galbraith that the Board of Governors of Sir Sandford Fleming College receive the Board of Governors members only website overview for information. <u>Carried</u>

15. Other Business

The Chair reminded Governors that the Honouring the Rights of the Indigenous Peoples event would be occurring today at 5:00p.m. in the main foyer of Sutherland Campus. Governors were encouraged to attend.

16. Adjournment

Moved by Mr. Luloff and seconded by Ms. MacIver that the public meeting of September 25, 2019 be adjourned at 2:43 p.m.



Board of Governors | Briefing Note

Topic:	Investment Portfolio Review
Report To:	Public Board Meeting
	Reviewed by Finance and Audit Committee on November 20th ,2019 for final submission to
	the Board of Governors
Meeting Date:	November 27, 2019
Prepared By:	Sue Sanders, Director Finance

Recommended Motion

This report is provided as information.

Overview

A summary of the investment performance of the Endowment Portfolios, for the period ended September 30, 2019, has been provided to the College by RBC Dominion Securities.

The Comprehensive Investment Policy Statement (IPS), College Policy #4-419A, requires semi-annual reporting to the Board of Governors which includes the asset allocation, performance vs the benchmarks, a written statement of compliance with relevant sections of the IPS and a market commentary. The Comprehensive Reports are in compliance with the asset mix targets, the eligible investment guidelines, the investment limits as well as the fixed income quality and diversification requirements included in the related IPS.

The overall investment performance of the Comprehensive portfolio is measured against an annual target benchmark return of 3.5% (this is not a "performance index" target, but rather it is the minimum target for the annual earnings and distribution rate for student bursaries). The return for the last year slightly exceeded the target at 3.56% as did the four year period which returned 3.65%.

As an additional measurement, the performance of the equity portion of the portfolio is compared to the S&P/TSX Equity Income Total Return Index. The index includes three companies in the Brookfield Group, which we are unable to hold due to their classification as international. These companies have performed extremely well over the last few years and comprise approximately 6.3% of the index. This has contributed to the underperformance of the equity portion of the portfolio compared to the benchmark as has the spike in oil prices at the end of the quarter. Our portfolio is underweight in energy and the plan is to remain underweight as RBC has just lowered the target prices for oil in 2020 and 2021 due to slowing world growth.

The Ministry Endowed IPS, College Policy #4-419D also requires semi-annual reporting to the Board of Governors and includes the asset allocation and a written statement of compliance with the Quality Guidelines. The report complies with asset mix and fixed income quality targets.

Alignment with Strategic Direction

Supporting Student Success Strategy

Risks and Considerations

External Environment	Internal Er	vironment 🗌 Fina	ncial 🗌 Human	Resources	
Information Technology	Legal	Operational	Strategic	🖾 N/A	

Supporting Documentation

Detailed Portfolio Reviews for the period ended September 30, 2004 927, 2019 | Public Meeting Package Page 7

RBC Dominion Securities Inc.

Other Funds Accts)



SSFC Board of Governors Comprehensive Review

As at settlement date September 30, 2019

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Sir Sandford Fleming College of Applied Arts & Technology 599 Brealey Drive Peterborough, ON, K9J 7B1 Canada

Sir Sandford Fleming Family (Excludes Operating, Bursary Min, Union,

Henderson Capital Management

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Asset Allocation

Sir Sandford Fleming Family (Excludes Operating, Bursary Min, Union, Other Funds Accts)

By Asset Class and Geography

As at September 30, 2019





Geography	Market Value	%
Eixed income - Canada	5,670,401	65.88
Total Fixed Income	5,670,401	65.88
Enuity - Canada	2,629,727	30.55
Total Equity	2,629,727	30.55
Cash and Cash Equivalents - Canada	307,422	3.57
Total Cash and Cash Equivalents	307,422	3.57
Total Canada	8,607,550	100.00
Total Portfolio	8,607,550	100.00

Accrued income included with Market Value.

Henderson Capital Management

Investment Policy Statement

Sir Sandford Fleming Family (Excludes Operating, Bursary Min, Union, Other Funds Accts)

Investment Policy Statement

September 30, 2019

Total Portfolio Asset Allocation

		As of Se	ptember 30, 2019
	Long-Term Target	Asset Allocati	on Guidelines
	Asset Mix	Minimum	Maximum
Cash and Cash Equivalents	3.00%	0.00%	10.00%
Fixed Income	67.00%	55.00%	75.00%
Equity	30.00%	20.00%	40.00%

Market Value History

Sir Sandford Fleming Family (Excludes Operating, Bursary Min, Union, Other Funds Accts)

Sir Sandford Fleming College

October 1, 2014 to September 30, 2019



This graph depicts the Portfolio's market value over time. Net contribution consists of the sum of deposits and transfers-in less withdrawals, transfer outs, and any applicable withholding taxes. The Market Values depicted on this page represent the point-in-time value of your Portfolio at each period-end.

		Beginning Market	Net Contributions/	Total Investment	Ending Market
	Period Ending	Value	Withdrawals	Return	Value
2016	December	7,736,880.84	5,507.00	181,300.99	7,923,688.83
2010	March	7.923.688.83	(135,337.00)	43,238.36	7,831,590.19
2017	lune	7.831.590.19	(33,537.00)	(32,801.96)	7,765,251.23
	Sentember	7 765 251 23	204,681.00	84,448.68	8,054,380.91
	September	8 054 380 91	5,906,00	115,282.06	8,175,568.97
	December	8 175 568 07	(145 302 00)	(152,594.59)	7,877,672.38
2018	March	7 077 672 29	(36,849,00)	143.925.04	7,984,748.42
	June	7,877,072.38	(30,043.00)	31 046 71	8.082.115.13
	September	7,984,748.42	66,320.00	51,040.71	5,000,110,100
	December	8,082,115.13	363,339.00	(200,095.93)	8,245,358.20
2040	March	8,245,358,20	(107,961.44)	324,080.29	8,461,477.05
2019		8 461 477 05	(77.440.00)	53,262.63	8,437,299.68
	June	0,401,477.00	E4 075 00	118 974 65	8.607.549.65
	September	8,437,299.68	51,275.32	110,974.03	
TOTAL		1 St.	160,601.88	710,066.93	

Henderson Capital Management

Reported in CAD

Sir Sandford Fleming Family (Excludes Operating, Bursary Min, Union, Other Funds Accts)

As at September 30, 2019

Statement of Compliance from Portfolio Manager, Steve Henderson

The portfolios are in compliance with the IPS dated June 28, 2017 in terms of the following sections:

-Asset mix -Eligible investments -Investment limits -Fixed income quality and diversification

Henderson Capital Management

Sir Sandford Fleming Family (Excludes Operating, Bursary Min, Union, Other Funds Accts)

Portfolio Performance

As at September 30, 2019

Sir Sandford	Fleming	College
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% Rate of Return / Benchmark	6 Month	1 Year	3 Year	5 Year
Time-Weighted	2.04	3.57	2.95	2.34
ZANNUAL CPD TARGET - 3.50%	1.73	3.50	3.50	3.50



Annualized Returns

• Any returns greater than 12 months are annualized.

Rate of Return is calculated net of fees.

 Information regarding Performance Methodology can be found on the Statement of Terms page.

RBC Dominion Securities

Henderson Capital Management

Reported in CAD

As good as it gets?

Worry was the order of the day through much of the summer. Concerns focused on the manufacturing sectors of most economies, where production and new orders weakened. U.S. investor sentiment readings soured to deeply pessimistic levels previously seen at the bottom of last year's August-to-December stock market rout and not far above the panic levels plumbed at the depths of the European sovereign debt crisis in 2012 and the global financial crisis in 2009.

However, we note that manufacturing accounts for just 10% of U.S. GDP. The Purchasing Managers' Index (PMI) readings for the non-manufacturing 90% of the economy, already firmly in positive territory, surged over the summer led by new orders. A similar divergence between weak manufacturing and still-strong services PMIs is apparent in China, Japan, and the euro area.

Since July, economic data on balance has come in better than expected. Labour markets in North America remain very tight with U.S. and Canadian unemployment rates at multi-decade lows. This has produced a confident consumer with money to spend. In the U.S., new housing construction permits have surged recently while home sales have climbed higher. New mortgage applications to purchase a home are also higher than a year ago.

Most importantly, in the U.S. and throughout the developed world, credit conditions remain accommodative. The latest Senior Loan Officer Survey from the Federal Reserve reveals that a majority of banks continue to lower lending standards on almost all categories of loans, both commercial/industrial and consumer. Businesses report no trouble getting credit.

Historically low interest rates, banks that are prepared to lend, confident consumers able to sustain spending, and corporations that are delivering high profitability and record levels of free cash flow: this is very close to as good as it gets. And therein lies the problem. It is usually the case that the economy looks unstoppable before it peaks. The turn most often comes when inflation-frequently a product of an "unstoppable" economy experiencing labour shortages-moves up to levels demanding more aggressive tightening by the central bank.

Sir Sandford Fleming Family (Excludes Operating, Bursary Min, Union, Other Funds Accts)

As at September 30, 2019

That said, the accumulation of inflationary pressures great enough to compel central banks to act and then the subsequent buildup of monetary tightness sufficient to produce an economic downturn will take time, in our view. For our part, we expect the North American economies and corporate profits will continue to grow over the coming 12 months, perhaps beyond. Share prices should also advance from here in response to that growth.

An important part of portfolio construction is building in a margin for error were one to be proven wrong about the future direction of the course of the economy, share prices, and interest rates. Re-assessing whether that margin is sufficient would be useful while earnings and share prices look set to move higher in the coming months.

Fixed Income

Central bankers to politicos: "Do your jobs!"

In some respects, we are entering a quiet period for central bank activity in October-especially compared to September. And even though October will finish with meetings by the European Central Bank (ECB), Federal Reserve, and the Bank of Canada (BoC), few fireworks are expected. ECB President Mario Draghi fired his last (mini-) bazooka in September before handing the reins to Christine Lagarde on November 1; the Fed is widely expected to cut rates once more in 2019, most likely in December; and the BoC appears likely to move at some point, but on its own schedule. The Bank of England has all but teed up a rate cut, in our view, as Brexit issues loom large.

Policy initiatives always grab the headlines, but there is another message emanating from central bank leaders to their political counterparts: The ability of monetary policy to move economies has its limits.

Fiscal policy vs. monetary policy

Monetary policy-changes in short-term interest rates-is typically implemented by a central bank, while fiscal policy decisions-tax law changes, increases or decreases in spending-are made by the national government. Both types of policy may be used to influence the performance of an economy in the short run. Stimulative policies, in general, are expected to increase an economy's growth rate, whereas restrictive policies are designed to slow an economy's growth. In the aftermath of the Great Recession, global central banks took extraordinary measures to steady and stimulate their nations' economies. But many central banks have mandates-on employment, growth, or inflation-that drive and/or limit their policy actions. Now, with economic expansions showing signs of old age and central bankers scraping the bottoms of their monetary policy toolkits, we see an opportunity for fiscal policy to provide a leq-up.

Political dithering

In his news conference following the September meeting, the ECB president said it was "high time for fiscal policy" to flex its muscles to shore up the economy. Yet in Europe, calls for fiscal stimulus from the German government have received a lukewarm response. In the U.S., Fed Chair Jerome Powell has taken the opportunity to cite the economic uncertainty fomented by President Donald Trump's trade policies; his reward was to be referred to as an "enemy" by the president. As for the UK and Brexit, the political machinations are enough to cause one's head to spin. And so we join central bankers in reminding political leaders that monetary policy has its limits, and it's up to them to implement sound fiscal policies.

Canada

The Bank of Canada (BoC) kept its policy rate unchanged in September, opting to not join its developed-market peers in providing fresh monetary stimulus. The current strength of the Canadian economy provides reason for the BoC to stand pat for now. Government of Canada bond yields moved higher over the month and despite the yield curve remaining inverted, the bond market is only pricing in 25 basis points of easing from the BoC over the next 12 months. If the bond market is correct, Canada is set to have the highest policy rate within the G7 next year.

Given Canada is a small open economy, which is not immune to a deteriorating global growth picture, we think the current environment offers an opportunity to lock in reasonable yields for the next few years. Canada completes its lion's share of trade with the United States, which makes the outlook on the U.S. economy, as well the currency pair, particularly important. We find it challenging to see the BoC remaining on the sidelines if the Fed were to continue moving rates lower in response to slower growth, particularly if the Canadian dollar was to strengthen.

Canadian preferred shares remain an incredibly unloved asset class. Recent ETF data showed that August had the second - largest monthly outflows over the past five years. For investors who are coming up to tax-loss selling season and are considering their options, we note that the outlook for future returns is improved by a long period of underperformance. For example, there are a number of securities offering 6 percent or higher yields for the next five years. While this doesn't guarantee positive returns in the short term, one should consider the relative yield advantage that is left behind when exiting.

Equity

Canada

Energy was the strongest S&P/ TSX sector performer in the days following the September 14 drone and missile attack on Saudi Arabia's energy infrastructure. West Texas Intermediate and Brent Crude prices spiked in subsequent days as the markets scrambled to balance out the supply shock, but prices eased shortly thereafter. Demand for Canadian Energy equities rallied alongside crude prices, particularly for companies with zero or limited hedges in place. Although energy producers benefit from a higher price environment, a lack of transportation capacity remains the key overhang for the Canadian energy patch, from our perspective. In light of the structural headwinds, we continue to recommend higher-quality companies that have the capabilities to operate within an environment of lower crude oil prices.

Canadian banks trade at 10.5x earnings, a slight discount to their historical average price-to-earnings ratio of 11.5x. Year to date, the group has underperformed the S&P/TSX Composite Index. The Federal Reserve cut its overnight rate for the second time this year, and as a result, banks that have greater U.S. exposure are more likely to experience compression in net interest margins. That said, Canadian banks generate more income through fees than U.S. banks, on average, mitigating this effect somewhat. Furthermore, RBC Capital Markets believes credit provisions are normalizing.

United States

Just when it looked like the biggest outside issue facing the market-the trade war-was on pause and the market could breathe on its own, two other outside forces burst onto the scene: the renewed Middle East conflict and the impeachment investigation into President Donald Trump. The latter will no doubt distract the U.S. equity market from time to time, in our assessment, and create periodic volatility. Political battles of this magnitude tend to generate uncertainty. Whether the investigation will become something more for the market is less clear given it's only in the germination stage.

We think investors should focus on economic and earnings trends, as these are the primary factors that drive equities over the medium-to-long term, and they ultimately reflect any material impact from outside forces. The economy is on better footing than it was a month ago as data improved, including in the manufacturing sector which had been the Achilles heel. RBC Capital Markets lowered its S&P 500 earnings estimates a bit more for this year and next to \$165 and \$174 per share, respectively. Both forecasts are signaling modest year-over-year improvement.

As long as the trajectories of the global and domestic economies and corporate earnings remain at least in slow-growth modes, we are comfortable holding U.S. equities.

How does this affect your portfolio?

At quarter end, asset allocation was close to target guidelines with equities at 30.5%, fixed income at 65.9% and cash at 3.6%. Over the last year this asset allocation has allowed us to achieve benchmark performance of 3.5% net of fees. The benchmark has not been achieved in the three and five year periods, which is partially explained by a function of timing due to significant market declines which began in the fourth quarter of 2016 and 2014. The four year period exceeds the benchmark returning 3.65% vs 3.50%.

Conservative portfolios have been punished by the extremely low interest rates that have persisted over the last half decade. Shorter-term bond ladders have returned only 1.9% annually for the last five years. Unfortunately, with over ¼ of the world's bonds currently trading at negative yields, it is hard to understand how this will change substantially over the short term. Our current equity positioning -reflects our belief, that while world economic growth is set to slow, we believe exposure to equities is still warranted, as many equities, specifically Canadian companies, have significant yields, which will help support their stock prices through an earnings slow down. In fixed income, we continue to emphasize GIC purchases in the one to five year range, as GIC rates continue to be substantially better than government or corporate bond yields.

Canadian equity market returns were skewed at the end of the quarter by the terrorist attack on the oil production facilities of Saudi Aramco, which caused a spike in oil prices, boosting the performance of Canadian energy sector, which we have a significant underweight, leading to some of the equity underperformance versus the index. We still believe we need to remain underweight energy, as slowing world growth could lead to a significant decline in demand for oil, leading to lower energy prices going forward. We at RBC have just lowered our target prices for oil for both 2020 and 2021. We attribute additional lag within our portfolio performance vs the index to our inability to hold three companies in the Brookfield group due to their international classification. The Brookfield group of companies comprises approximately 6.3% of the index and all have performed extremely well both this year and over the last few years.

Sir Sandford Fleming Family (Excludes Operating, Bursary Min, Union, Other Funds Accts)

As at September 30, 2019

Within our holdings we remain overweight financials, specifically the banks, real estate investment trusts, and industrials. For the time being, we will remain underweight in energy, materials and healthcare. We are considering reducing our industrial holdings, which are the most vulnerable to economic slowdown and were a drag on portfolio performance in Q3. We note, however that over time industrials have performed well, specifically the railroads.

Henderson Capital Management

Legal Disclaimers

The portfolio summary ("the Portfolio Report") is prepared by your Investment Advisor/Portfolio Manager who is an employee of RBC DS and is prepared from information received from sources we believe to be reliable. It is not an official statement of your positions at RBC Dominion Securities Inc. ("RBC DS").

This Portfolio Report has been prepared at the direction of and solely for the general guidance and benefit of the owners of the accounts included in the portfolio. It should be noted that a Portfolio Report can be created at anytime whereas your monthly statement is created at the last day of the month. Some of the positions shown in this statement may be held at other financial institutions where they are not covered by the Canadian Investor Protection Fund. Information regarding positions that are not held at RBC DS has been provided by the owner of an account included in the portfolio. These positions are included in the Portfolio Report at the request of the owner(s) of one of more of the accounts comprising the Portfolio Report for the purposes of providing as complete a view as possible of the portfolio. Neither RBC DS nor its employees can guarantee the accuracy or completeness of information relating to positions held at entities other than RBC DS, including quantities of securities held, market value and book-cost.

Please consult the monthly statements you receive from RBC DS or from other entities where the positions are held to determine which positions are eligible for protection by the Canadian Investor Protection Fund, including information as to which positions are held in segregation.

If there are any discrepancies between the transactions or positions shown on the monthly statements you receive from RBC DS and those shown in this Portfolio Report as being transacted or held at RBC DS please report them to your RBC DS Investment Advisor or Portfolio Manager. If there are any discrepancies between the transactions or positions shown on the monthly statements you receive from other entities where the positions are held please report them to such other entity.

The securities accounts comprising the portfolio are listed below. Please review this list of accounts carefully to understand what assets are included and what assets are not included in the Portfolio Report. Contact your Investment Advisor/Portfolio Manager if you are uncertain as to the beneficial ownership of any accounts included in this Portfolio Report.

Each beneficial owner of an account included in the Portfolio Report must have provided consent to their RBC DS Investment Advisor/Portfolio Manager to include information about their account(s) in this Portfolio Report as this information will be shared with all parties whose accounts or assets have been included in the Portfolio Report. If you are the beneficial owner of an account(s) included in this Portfolio Report and you wish to have your accounts removed from the Portfolio Report please advise your Investment Advisor/Portfolio Manager.

Clients should consult their Investment Advisor/Portfolio Manager when planning to purchase or sell securities or otherwise rebalance securities holdings as a result of the information provided in this Portfolio Report. This will ensure that their own circumstances, including their own individual investment objectives and risk tolerances, have been considered properly and that action is taken on the latest available information. Interest rates, market conditions market prices, tax rules, security classifications and other investment factors are subject to change.

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General Disclaimers

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Henderson Capital Management

THE SIR SANDFORD FLEMING COL - 3761737919000 THE SIR SANDFORD FLEMING COL - 3761737919001 THE SIR SANDFORD FLEMING COL - 5111959010000 THE SIR SANDFORD FLEMING COL - 5112105415000 THE SIR SANDFORD FLEMING COL - 5112147615000 THE SIR SANDFORD FLEMING COL - 5112169013000 THE SIR SANDFORD FLEMING COL - 5112269013000 THE SIR SANDFORD FLEMING COL - 5112269112000 THE SIR SANDFORD FLEMING COL - 5112269211000

 For position not held in CAD, all values were converted using the following exchange rates: CAD converted to USD at CAD\$1 - USD\$0.75503
 USD converted to CAD at USD\$1 - CAD\$1.32445

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Section Specific Disclaimers

Henderson Capital Management





SSFC Board of Governors Equity Review

As at settlement date September 30, 2019

Sir Sandford Fleming College Equity (PIM)

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Sir Sandford Fleming College of Applied Arts & Technology 599 Brealey Drive Peterborough, ON, K9J 7B1 Canada

Henderson Capital Management

Stephen L. Henderson, FCSI Vice President and Director Phone 705-743-4378 or 1-800-429-9507 Shaylene Pind, Associate 705-743-4492 Lee Ann Jenkins, Associate 705-743-4413 Providing complete wealth management solutions to our clients since 1985.

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RBC Wealth Management Dominion Securities

Portfolio Performance

Sir Sandford Fleming College Equity (PIM)

October 1, 2014 to September 30, 2019

Sir Sandford Fleming College

% Rate of Return / Benchmark	6 Month	1 Year	3 Year	5 Year
Time-Weighted	3.86	5.26	5.07	2.06
S&P/TSX EQTY INC INDX TR (C\$)	5.81	10.21	7.14	3.85



• Any returns greater than 12 months are annualized.

• Since Start Date returns are for the period between October 1, 2014 and September 30, 2019

• Rate of Return is calculated net of fees.

• Information regarding Performance Methodology can be found on the Statement of Terms page.

Henderson Capital Management

Reported in CAD

Annualized Returns

Legal Disclaimers

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Henderson Capital Management

THE SIR SANDFORD FLEMING COL - 3761737919000 THE SIR SANDFORD FLEMING COL - 3761737919001

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RBC Dominion Securities Inc.



SSFC Board of Governors Ministry Endowed Review

As at settlement date September 30, 2019

Sir Sandford Fleming College Bursary Ministry Funds

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Compliance Statement	
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Sir Sandford Fleming College Of Applied Arts & Technology Ministry Endowed Funds 599 Brealey Drive Peterborough, ON, K9J 7B1 Canada

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Asset Allocation

Sir Sandford Fleming College Bursary Ministry Funds

By Asset Class and Geography

As at September 30, 2019

Allocation by Asset Class and Geography



Geography	Market Value	%
Fixed Income - Canada	277,216	91.12
Total Fixed Income	277,216	91.12
Cash and Cash Equivalents - Canada	27,021	8.88
Total Cash and Cash Equivalents	27,021	8.88
Total Canada	304,237	100.00
Total Portfolio	304,237	100.00

Accrued income included with Market Value.

Henderson Capital Management

Reported in CAD

Investment Policy Statement

Sir Sandford Fleming College Bursary Ministry Funds

Investment Policy Statement

September 30, 2019

Total Portfolio Asset Allocation

		As of Se	eptember 30, 2019
	Long-Term Target	Asset Allocati	on Guidelines
	Asset Mix	Minimum	Maximum
Cash and Cash Equivalents	3.00%	0.00%	10.00%
Fixed Income	97.00%	90.00%	100.00%

Henderson Capital Management

Market Value History

Sir Sandford Fleming College Bursary Ministry Funds



Sir Sandford Fleming College

October 1, 2014 to September 30, 2019

This graph depicts the Portfolio's market value over time. Net contribution consists of the sum of deposits and transfers-in less withdrawals, transfer outs, and any applicable withholding taxes. The Market Values depicted on this page represent the point-in-time value of your Portfolio at each period-end.

	1.000				English Market
		Beginning Market	Net Contributions.	Fotal Investment	Ending Market
	Period Ending	Value	Withdrawals	Return	Value
2016	December	306,558.10	0.00	(365.25)	306,192.85
2017	March	306,192,85	(18,000.00)	1,778.68	289,971.53
	June	289,971.53	0.00	725.70	290,697.23
	September	290,697.23	0.00	359.99	291,057.22
	December	291,057.22	0.00	1,526.61	292,583.83
2018	March	292,583.83	0.00	1,519.53	294,103.36
	June	294,103,36	0.00	1,213.82	295,317.18
	September	295,317.18	0.00	1,252.33	296,569.51
	December	296,569.51	0.00	2,133.56	298,703.07
2019	March	298,703.07	0.00	2,014.87	300,717.94
	June	300,717.94	0.00	1,804.51	302,522.45
	September	302,522.45	0.00	1,564.98	304,087,43
TOTAL			(18,000.00)	15,529.33	

TALL MORE FILM

Henderson Capital Management

Compliance Statement.

Sir Sandford Fleming College Bursary Ministry Funds

As at September 30, 2019

Statement of Compliance from Portfolio Manager, Steve Henderson The portfolio is in compliance with the IPS dated June 2017 in terms of the following section: Fixed income quality

Henderson Capital Management

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- This portfolio is composed of the following accounts: THE SIR SANDFORD FLEMING COL - 5112269419000
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Section Specific Disclaimers

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Henderson Capital Management

SIR SANDFORD FLEMING COLLEGE

Statement of Revenue and Expenditures - Trending Analysis

For the Period Ending September 30, 2019

(\$ '000s)

	Cu	urrent Year		Prior Year			Variance	
	Actual To	Budget		Actual To	Actual		Difference	
	30-Sep-2019	Current Year	%	30-Sep-2018	Prior Year	%	%	
Revenue								
Grants and Reimbursements	\$ 21,512	\$ 45,636	47.1%	\$ 24,222	51,159	47.3%	-0.2	
Full-time Tuition	33,214	52,859	62.8%	40,220	58,523	68.7%	-5.9	
Part-time Tuition	2,519	3,287	76.6%	2,406	3,533	68.1%	8.5	
Student Tuition Fees	35,733	56,147	63.6%	42,626	62,057	68.7%	-5.0	
Contracted Education Services	416	1,015	41.0%	194	914	21.2%	19.8	
Other Income	5,706	10,308	55.4%	4,887	10,721	45.6%	9.8	
Ancillary Fees	3,047	5,929	51.4%	3,356	5,912	56.8%	-5.4	
Total Other Income	8,752	16,237	53.9%	8,243	16,633	49.6%	4.3	
Amortization of Deferred Capital Contributions	2,244	4,487	50.0%	2,199	4,397	50.0%	0.0	
Total Operating Revenues	68,657	123,523	55.6%	77,483	135,161	57.3%	-1.7	
Non Operating Revenues								
Skills Programs	1,400	3,278	42.7%	1,487	3,524	42.2%	0.5	
Tuition Holdback Bursaries	736	3,380	21.8%	602	2,361	25.5%	-3.7	
Ministry Bursaries	286	281	101.9%	175	656	26.7%	75.3	
Special Projects	1,263	2,688	47.0%	1,449	4,044	35.8%	11.1	
Facilities Renewal and Renovation Projects	121	527	22.9%	233	562	41.4%	-18.5	
Ancillary Operations	3,406	6,366	53.5%	3,442	6,152	55.9%	-2.4	
Total Non-Operating Revenues	7,211	16,520		7,388	17,299			
Total Revenue	\$ 75,869	\$ 140,044	54.2%	\$ 84,855 \$	\$ 152,435	55.7%	-1.5	

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	-		-	

Comment

).2% U	On trend.
5.9% U	Both fall and summer actual enrolment projections were higher than actual enrolment. Winter enrolments to be revisited
8.5% F	Unfunded PT enrolments through international studies trending up ward
5.0% U	
.8% F	Timing variance - early delivery of contract
).8% F	Unplanned events within facility rentals and increase in investment income contributing to a favourable revenue position. Budgets to be reforecast for budget update.
5.4% U	Decline in student enrolment from projected
.3% F	
0.0% U	
.7% U	Anticipating slight decline in overall operating revenues driven by decline in overall enrolments from preliminary budget plan
0.5% F 8.7% U	On trend - government grants on contracts (i.e. Literary Basic Skills & Employment Skills)
5.3% F .1% F 5.5% U	Project flowthrough funding variable based on project timetable and funding distribution.
2.4% U	Trending behind on parking at Frost

.5% U

SIR SANDFORD FLEMING COLLEGE

Statement of Revenue and Expenditures - Trending Analysis

For the Period Ending September 30, 2019

(\$ '000s)

	Cu	urrent Year		Prior Year			Variance	
	Actual To	Budget		Actual To	Actual		Difference	
	30-Sep-2019	Current Year	%	30-Sep-2018	Prior Year	%	%	
Expenditures								
Salaries and Benefits								
Salaries, Full Time	\$ 22,777	\$ 49,366	46.1%	\$ 22,083	\$ 48,194	45.8%	0.3	
Salaries, Part Time	6,658	18,008	37.0%	7,405	18,944	39.1%	-2.1	
Benefits	6,414	15,003	42.8%	6,385	13,609	46.9%	-4.2	
Total Salaries and Benefits	35,849	82,376	43.5%	35,873	80,746	44.4%	-0.9	
	21.8%	22.3%		21.7%	20.3%			
Non-Salary Expenses								
Instructional Support Costs	3,399	6,654	51.1%	3,210	6,004	53.5%	-2.4	
Travel	574	2,116	27.1%	533	1,718	31.0%	-3.9	
Advertising	508	1,281	39.7%	358	1,340	26.8%	12.9	
Telephone, Audit, Legal & Insurance	790	2,828	27.9%	1,074	3,047	35.3%	-7.3	
Equipment Maintenance	270	715	37.7%	343	662	51.8%	-14.0	
Plant and Security	1,142	2,859	40.0%	659	3,028	21.8%	18.2	
Rentals and Taxes	603	996	60.6%	603	867	69.6%	-9.0	
Utilities	1,114	2,636	42.3%	816	2,890	28.2%	14.0	
Contract Services Trent		2,356	0.0%		2,452	0.0%	0.0	
Agent Commissions	ł 963	4,008	24.0%	2,070	4,467	46.3%	-22.3	
Services & Other	2,047	4,936	41.5%	1,632	4,393	37.1%	4.3	
Long Term Debt Interest	42	178	23.4%	22	42	51.4%	-28.1	
Amortization of Capital Assets	3,523	7,046	50.0%	3,181	6,363	50.0%	0.0	
Total Non-Salary Expenses	14,976	38,609	38.8%	14,502	37,272	38.9%	-0.1	
Total Operating Expenditures	50,824	120,985	42.0%	50,375	118,019	42.7%	-0.7	

Comment

|--|

- 1% F approved in meeting objectives in strategic plan. This is being
- offset with a decline in use of PT staffing. Overall salary and
- benefits anticipated to decline in total.
- % F
- **F** Potential for small savings
- **9% F** Potential for small savings
- % U Overall increase in advertising and promotion including inadequate consideration for cost of job postings for the year, budget to be revised.
- **b% F** Contingency for legal fees in place. Efforts in place to reduce overall cost of legal thus contingency may be not be utilized. Potential for added savings.
- **D% F** Timing variance on the need to spend maintenance funds. Trending low on IT hardware maintenance.
- 2% U Timing variance with change in cleaning contract, trending high building maintenance
- **% F** Timing variance in rental payment from prior year due to change in lease terms for pre-service fire program, no savings anticipated
- **)% U** Timing variance utility payments.
-)% F
- **5% F** Timing variance on payments to agents
- **W** U Trending high on professional fees in relation to corporate process reviews
- % F Contingency for interest on line of credit.
- % U
- % F
- ′% F

SIR SANDFORD FLEMING COLLEGE

Statement of Revenue and Expenditures - Trending Analysis

For the Period Ending September 30, 2019

(\$ '000s)

	Cu	irrent Year		Prior Year			Varianc	
	Actual To	Budget		Actual To	Actual		Differen	
	30-Sep-2019	Current Year	%	30-Sep-2018	Prior Year	%	%	
Non-Operating Expenditures								
Investments	540	745	72.5%	902	4,129	21.8%	50	
Skills Programs	1,400	3,278	42.7%	1,487	3,527	42.2%	0.	
Tuition Holdback Bursaries	736	3,380	21.8%	602	2,361	25.5%	-3.	
Ministry Bursaries	286	281	101.9%	175	656	26.7%	75.	
Special Projects	1,263	2,688	47.0%	1,449	4,032	35.9%	11.	
Facilities Renewal and Renovation	121	433	27.9%	233	590	39.4%	-11	
Ancillary Operations	2,344	6,112	38.4%	2,558	5,643	45.3%	-7.	
Total Non-Operating Expenditures	6,690	16,917	-	7,406	20,938			
Total Expenditures	\$ 57,514	\$ 137,902	41.7%	\$ 57,781 \$	\$ 138,956	41.6%	0	
Net	\$ 18,354	\$ 2,142	857.1%	\$ 27,074 \$	\$ 13,478	200.9%	656	

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nce		Comment
0.6%	U	Enhancement to college renovation projects
0.5% 3.7%	U F	
5.3%	U	Project/special grant flowthrough
1.0%	U	
1.5%	F	
7.0%	F	Trending low on operating costs, potential for savings

.1% U

.2%
Statement of Revenue and Expenditures - Quarterly Forecast

For the Period Ending September 30, 2019

(\$ '000s)

	Actual To	Q1	Q2	Q3	Q4	Fiscal Year	Budget	Projected
	30-Sep-2019	Actual	Actual	Estimate	Estimate	Trending	Current Year	Variance
						Analysis		
Revenue								
Grants and Reimbursements	\$ 21,512 \$	11,395 \$	10,118 \$	10,118 \$	14,006 \$	45,636	\$ 45,636	\$0
Student Tuition Fees								
Tuition - Winter Carryover	1,673	1,673	0		-1,372	301	224	77
Tuition - Spring/Summer	1,988	1,902	86	0	0	1,988	2,590	-602
Tuition - Fall	6,586	-11	6,597	159	<i>i</i>	6,746	7,947	-1,201
Tuition - Winter	-36	-32	-4	2,612	3,954	6,530	7,649	-1,119
Total Full Time Domestic Tuition	10,211	3,531	6,680	2,772	2,582	15,565	18,410	-2,845
Tuition - Winter Carryover	2,060	2,060	0		-2,340	-280	86	-366
Tuition - Spring/Summer	7,024	7,024	0	11		7,034	7,117	-83
Tuition - Fall	13,956	-1	13,956	98		14,053	12,080	1,974
Tuition - Winter	-35	-74	38	6,189	9,319	15,473	15,021	452
Total Full Time International Tuition	23,004	9,010	13,994	6,298	6,979	36,281	34,304	1,976
Apprenticeship Classroom Fee	87	33	54	58		145	145	0
Tuition Waivers	-89	-33	-55	-40	129		0	0
Part Time Tuition - Spring/Summer	1,519	1,391	128	4		1,523	1,523	0
Part Time Tuition - Fall	699	-14	713	182		881	881	0
Part Time Tuition - Winter	301	286	15	127	706	1,133	883	250
Total Other Tuition	2,517	1,663	854	331	835	3,683	3,433	250
Total Student Tuition Fees	35,733	14,204	21,528	9,400	10,395	55,528	56,147	-619
Other Income								
Contracted Education Services	416	396	21	91	508	1,015	1,015	0
Other Income	5,706	1,091	4,615	995	4,107	10,808	10,308	500
Ancillary Fees	3,047	891	2,156	984	1,343	5,374	5,929	-556
Amortization of Deferred Capital Contributions	2,244	1,122	1,122	1,122	1,122	4,487	4,487	0
Total Other Income	11,412	3,499	7,913	3,192	7,080	21,684	21,740	-56
Total Operating Revenue	68,657	29,098	39,559	22,710	31,482	122,849	123,523	-674
Non-Operating Royonue								
Skills Programs	1 400	819	581	632	1 246	3 278	3 278	Ω
Tuition Holdback Bursaries	736	417	319	1 529	1 115	3 380	3 380	0
Ministry Bursaries	286	238	48	170	225	681	281	400
Special Projects	1 263	641	622	404	1 022	2 688	2 688	-500 N
Facilities Renewal and Renovation Projects	121	30	82	153	253	527	527	0
Ancillary Operations	3,406	439	2,967	1,528	1,233	6,166	6,366	-200
Total Revenue	\$ 75,869 \$	31,691 \$	44,177 \$	27,125 \$	36,575 \$	139,569	\$ 140,044 -	\$ 474

Statement of Revenue and Expenditures - Quarterly Forecast

For the Period Ending September 30, 2019

(\$ '000s)

	Actual To	Q1	Q2	Q3	Q4	Fiscal Year	Budget	Projected
	30-Sep-2019	Actual	Actual	Estimate	Estimate	Trending Analysis	Current Year	Variance
Expenditures								
Salaries and Benefits								
Salaries - Full Time Academic	\$ 10,950 \$	5,074 \$	5,876 \$	5,876 \$	6,321 \$	23,147	\$ 23,459 -	\$ 312
Salaries - Full Time Administration	3,954	1,427	2,527	2,527 \$	3,242	9,724	9,378	346
Total Full Time Salaries	22,777	3,595 10,096	4,278 12,681	4,278 ֆ 12,681	4,602 14,165	49,624	49,366	224 258
Salaries - Part Time Academic	5,422	2,423	2,999	3,089 \$	5,665	14,176	14,775	-599
Salaries - Part Time Other	1,235	544	691	691 \$	1,202	3,128	3,232	-104
Total Part Time Salaries	6,658	2,967	3,691	3,781	6,867	17,305	18,008	-703
Total Benefits	6,414	3,168	3,246	3,587	4,583	14,584	15,003	-418
% benefits	21.8%	24.3%	19.8%	21.8%	21.8%	21.8%	22.3%	
Total Salaries and Benefits	35,849	16,231	19,618	20,049	25,615	81,513	82,376	-863
Non-Salary Expenses								
Instructional Support Costs	3,399	2,267	1,132	1,497	1,632	6,527	6,654	-127
Travel and Professional Development	574	230	344	462	815	1,851	2,116	-265
Advertising	508	113	395	521	842	1,872	1,281	591
Telephone, Audit, Legal & Insurance	790	592	198	778	672	2,240	2,828	-588
Equipment Maintenance	270	159	111	109	310	689	715	-26
Plant and Security	1,142	325	818	378	1,521	3,042	2,859	183
Rentals and Taxes	603	53	550	144	249	996	996	0
Utilities	1,114	280	834	467	1,054	2,636	2,636	0
Contract Services Trent	0	0	0	0	2,356	2,356	2,356	0
Agent Commissions	963	198	765	1,242	1,804	4,008	4,008	0
Services & Other	2,047	816	1,232	1,287	1,795	5,129	4,936	193
Long Term Debt Interest	42	10	32	10	32	84 7.046	1/8	-94
	3,523	1,701	1,701	1,701	1,701	7,040	7,040	0
Total Non-Salary Expenses	14,976	6,803	8,172	8,657	14,843	38,475	38,609	-134
Total Operating Expenditures	50,824	23,034	27,791	28,706	40,458	119,989	120,985	-997
Non Operating Expenditures								
Investments	540	87	453	87	418	1,045	745	300
Skills Programs	1,400	685	715	632	1,246	3,278	3,278	0
Tuition Holdback Bursaries	736	417	319	1,529	1,115	3,380	3,380	0
Ministry Bursaries	286	238	48	170	225	681	281	400
Special Projects	1,263	641	622	404	1,022	2,688	2,688	0
Facilities Renewal and Renovation Projects	121	39	82	104	208	433	433	0
Ancillary Operations	2,344	842	1,502	1,644	1,964	5,952	6,112	-160
Total Expenditures	\$ 57,514 \$	25,982 \$	31,532 \$	33,276 \$	46,656 \$	137,446	\$ 137,902 -	456
Net	\$ 18,354 \$	5,709 \$	12,646 -	\$ 6,151 -\$	10,080 \$	2,123	\$ 2,142 -	\$ 18

Statement of Revenue and Expenditures - Trending Analysis For the Period Ending October 31, 2019

		Current Year				F	Prior Year		Variance	
	4 31	ctual To -Oct-2019	Budget Current Year	YTD/Budget %	A 31-	ctual To Oct-2018	Actual Prior Year	YTD/Year %	Difference %	Comment
Revenue										
Grants and Reimbursements	\$	24,857	\$ 45,636	54.5%	\$	28,093 \$	51,159	54.9%	-0.4% U	
Full-time Tuition		33,040	52,859	62.5%		40,305	58,523	68.9%	-6.4% U	
Part-time Tuition		2,648	3,287	7 80.5%		2,515	3,533	71.2%	9.4% F	
Student Tuition Fees		35,688	56,147	7 63.6%		42,820	62,057	69.0%	-5.4% U	Budget update to reflect revised tution forecast, over loss of revenue is projected
Contracted Education Services		446	1,01	5 43.9%		247	914	27.1%	16.8% F	Added contract in year, revised budget to reflect new amounts.
Other Income		6,606	10,308	64.1%		5,382	10,721	50.2%	13.9% F	Increases to be added to budget Budget update to reflect revised fees forecast, over
Ancillary Fees		3,080	5,929	51.9%		3,362	5,912	56.9%	-4.9% U	loss of revenue is projected
Total Other Income		9,686	16,237	7 59.7%		8,744	16,633	52.6%	7.1% F	
Amortization of Deferred Capital Contributions		2,617	4,487	7 58.3%		2,565	4,397	58.3%	0.0% U	
Total Operating Revenues		73,293	123,523	<u> </u>		82,470	135,161	61.0%	-1.7% U	
Skills Programs		1,948	3.278	3 59.4%		1,946	3,524	55.2%	4.2% F	
Tuition Holdback Bursaries		742	3,380) 22.0%		617	2,361	26.1%	-4.2% U	
Ministry Bursaries		321	281	l 114.4%		210	656	32.1%	82.3% F	Project flowthrough funding variable based on
Special Projects		1,463	2,688	3 54.4%		1,810	4,044	44.8%	9.7% F	project interable and running distribution.
Facilities Renewal and Renovation Projects		127	527	7 24.0%		146	562	26.0%	-2.0% U	
Ancillary Operations		3,813	6,366	5 59.9%		3,557	6,152	57.8%	2.1% F	Added in-year revenues
Total Revenue	\$	81,707	\$ 140,044	<u> </u>	\$	90,756 \$	152,460	59.5%	-1.2% U	

Statement of Revenue and Expenditures - Trending Analysis For the Period Ending October 31, 2019

	Current Year			Prior Year			Variance		
	Actual To 31-Oct-2019	Budget Current Year	YTD/Budget %	Actual To 31-Oct-2018	Actual Prior Year	YTD/Year %	Difference %	Comment	
Expenditures									
Salaries and Benefits									
Salaries, Full Time	\$ 26,606 \$	49,366	53.9%	\$ 25,697 \$	48,194	53.3%	0.6% U		
Salaries, Part Time	8,646	18,008	48.0%	9,253	18,944	48.8%	-0.8% F		
Benefits	7,471	15,003	49.8%	7,393	13,609	54.3%	-4.5% F		
- Total Salaries and Benefits	42.723	82.376	- 51.9%	42.342	80.746	52.4%	-0.6% F	Anticipated decrease in overall salary and benefits through budget update process	
-	,0	02,010				0211/0			
Non-Salary Expenses									
Instructional Support Costs	4,141	6,404	64.7%	3,675	6,004	61.2%	3.5% U		
Travel and Professional Development	879	2,116	41.5%	659	1,718	38.4%	3.2% U		
Advertising	598	1,281	46.7%	478	1,340	35.7%	11.0% U		
Telephone, Audit, Legal & Insurance	825	2,828	29.2%	1,232	3,047	40.5%	-11.3% F		
Equipment Maintenance	302	715	42.2%	370	662	56.0%	-13.7% F		
Plant and Security	1,579	2,859	55.2%	1,084	3,028	35.8%	19.4% U		
Rentals and Taxes	690	996	69.3%	659	867	76.1%	-6.8% F		
Utilities	1,280	2,636	48.6%	1,303	2,890	45.1%	3.5% U		
Contract Services Trent	0	2,356	0.0%	0	2,452	0.0%	0.0% F		
Agent Commissions	964	4,008	24.0%	2,224	4,467	49.8%	-25.8% F	Fall Commission not yet paid	
Services & Other	2,584	4,936	52.4%	1,883	4,393	42.9%	9.5% U		
Long Term Debt Interest	56	178	31.3%	25	42	59.9%	-28.5% F		
Amortization of Capital Assets	4,110	7,046	58.3%	3,712	6,363	58.3%	0.0% U		
•			-	,	,			Overall spend plan is on trend, however will require a redistribution between account lines as proposed in budget update. Additional spending is also projected within the revised budget with additional grant	
Total Non-Salary Expenses	18,008	38,359	46.9%	17,306	37,272	46.4%	0.5% U	projects.	
Total Operating Expenditures	60,731	120,735	50.3%	59,648	118,019	50.5%	-0.2% F		
Investments	750	1.428	52.6%	1.460	4.719	30.9%	21.6% U		
Skills Programs	1.643	3,278	50.1%	1.741	3.527	49.4%	0.8% U		
Tuition Holdback Bursaries	742	3 380	22.0%	617	2 361	26.1%	-4 2% F		
Ministry Burgaries	201	281	111 10/	210	2,001	20.1%	92 20/ II		
Special Projects	JZ 1 4 462	201		210	000	JZ.1 /0	02.3 /0 U		
	1,463	2,688	54.4%	1,810	4,032	44.9%	9.5% U		
Ancillary Operations	2,847	6,112	46.6%	3,021	5,643	53.5%	-7.0% F		
Total Expenditures	\$ 68,498 \$	\$ 137,902	49.7%	\$ 68,507 \$	138,956	49.3%	0.4% U		
Net	\$ 13,210 \$	\$ 2,142	616.8%	\$ 22,249 \$	13,504	164.8%			

Statement of Revenue and Expenditures - Quarterly Forecast

For the Period Ending October 31, 2019

	A	ctual To	Q1	Q2	Q3	Q4	Fiscal Year	Budget	Projected
	31-	Oct-2019	Actual	Actual	Estimate	Estimate	Projection	Current Year	Variance
Revenue									
Grants and Reimbursements	\$	24,857 \$	11,395 \$	10,118 \$	11,759 \$	12,622 \$	45,893	\$ 45,636 \$	257
Student Tuition Fees									
Tuition - Winter Carryover (April)		1,673	1,673	0	0	-1,372	301	1,673	-1,372
Tuition - Spring/Summer		1,987	1,902	86	-1	0	1,987	2,590	-604
Tuition - Fall		6,638	-11	6,597	159	0	6,746	7,947	-1,201
Tuition - Winter		-36	-32	-4	2,612	3,954	6,530	6,201	330
Total Full Time Domestic Tuition		10,262	3,531	6,680	2,771	2,581	15,564	18,410	-2,846
Tuition - Winter Carryover (April)		2,060	2,060	0	0	-2,340	-280	2,060	-2,340
Tuition - Spring/Summer		7,025	7,024	0	1	9	7,034	7,117	-83
Tuition - Fall		13,726	-1	13,956	98	0	14,053	12,080	1,974
Tuition - Winter		-34	-74	38	6,189	9,347	15,501	13,047	2,454
Total Full Time International Tuition		22,777	9,010	13,994	6,288	7,016	36,309	34,304	2,004
Apprenticeship Classroom Fee		92	33	54	30	39	156	145	11
Tuition Waivers		-90	-33	-55	-40	129	0	0	0
Part Time Tuition - Spring/Summer		1,527	1,391	128	8	116	1,643	1,523	120
Part Time Tuition - Fall		818	-14	713	195	0	894	881	13
Part Time Tuition - Winter		302	286	15	127	529	957	883	74
Total Other Tuition		2,649	1,663	854	320	813	3,650	3,433	217
Total Student Tuition Fees		35,688	14,204	21,528	9,379	10,410	55,522	56,147	-625
Other Income									
Contracted Education Services		446	396	21	91	861	1.369	1,015	353
Other Income		6.606	1.091	4.615	1.461	3.700	10.866	10.308	558
Ancillary Fees		3.080	891	2.156	913	1.374	5.333	5,929	-596
Amortization of Deferred Capital Contributions		2,617	1,122	1,122	1,197	1,197	4,638	4,487	151
Total Other Income		12,749	3,499	7,913	3,662	7,132	22,206	21,740	466
Total Operating Revenue		73 293	29 098	39 559	24 800	30 164	123 621	123 523	98
		10,200	23,030	00,000	24,000	30,104	120,021	120,020	
Skills Programs		1,948	819	581	632	1,269	3,302	3,278	23
Tuition Holdback Bursaries		742	417	319	1.061	1,583	3.380	3,380	0
Ministry Bursaries		321	238	48	179	216	681	281	400
Special Projects		1.463	641	622	1.586	2.079	4.928	2.688	2.240
Facilities Renewal and Renovation Projects		127	39	82	153	340	614	527	_,_ 10
Ancillary Operations		3,813	439	2,967	1,464	1,584	6,454	6,366	88
Total Revenue	\$	81.707 \$	31,691 \$	44,177 \$	29.875 \$	37 236 \$	5 142 980	\$ 140 044 \$	2 936
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Statement of Revenue and Expenditures - Quarterly Forecast

For the Period Ending October 31, 2019

		Current Year							
		Actual To	Q1	Q2	Q3	Q4	Fiscal Year	Budget	Projected
	3	1-Oct-2019	Actual	Actual	Estimate	Estimate	Projection	Current Year	Variance
Expenditures									
Salaries and Benefits									
Salaries - Full Time Academic Salaries - Full Time Administration	\$	12,636 \$ 4,785	5,074 \$ 1.427	5,876 \$ 2.527	5,876 \$ 2.597	5,656 \$ 3.436	5 22,483 9.987	\$ 23,459 -\$ 9.378	609 609
Salaries - Full Time Support Total Full Time Salaries		9,185 26,606	3,595 10,096	4,278 12,681	4,222 12,694	4,065 13,158	16,160 48,629	16,529 49,366	-369 -737
Salaries - Part Time Academic		7,025	2,423	2,999	3,916	5,362	14,700	14,775	-76
Salaries - Part Time Other		1,621	544	691	874	1,360	3,470	3,232	238
Total Part Time Salaries		8,646	2,967	3,691	4,790	6,722	18,170	18,008	162
Total Benefits		7,471	3,168	3,246	3,705	4,183	14,303	15,003	-700
Total Salaries and Benefits		42,723	16,231	19,618	21,189	24,063	81,101	82,376	-1,274
Non-Salary Expenses									
Instructional Support Costs		4,141	2,267	1,132	1,405	1,827	6,631	6,404	227
Travel and Professional Development		879	230	344	706	994	2,275	2,116	159
Advertising		598	113	395	230	674	1,411	1,281	130
Telephone, Audit, Legal & Insurance		825	592	198	1,284	889	2,963	2,828	135
Equipment Maintenance		302	159	111	261	192	722	715	7
Plant and Security		1,579	325	818	569	1,141	2,852	2,859	-7
Rentals and Taxes		690	53	550	192	268	1,063	996	67
Utilities		1,280	280	834	459	1,164	2,737	2,636	101
Contract Services Trent		0	0	0	0	2,356	2,356	2,356	0
Agent Commissions		964	198	765	1,647	2,113	4,723	4,008	715
Services & Other		2,584	816	1,232	805	2,026	4,878	4,936	-58
Long Term Debt Interest		56	10	32	41	40	122	178	-56
Amortization of Capital Assets		4,110	1,761	1,761	1,816	1,816	7,156	7,046	110
Total Non-Salary Expenses		18,008	6,803	8,172	9,414	15,498	39,888	38,359	1,529
Total Operating Expenditures		60,731	23,034	27,791	30,604	39,562	120,990	120,735	254
Investments		750	126	535	460	556	1,678	1,428	250
Skills Programs		1,643	685	715	906	995	3,302	3,278	23
Tuition Holdback Bursaries		742	417	319	1,061	1,583	3,380	3,380	0
Ministry Bursaries		321	238	48	179	216	681	281	400
Special Projects		1.463	641	622	1.586	2.079	4.928	2.688	2.240
Ancillary Operations		2,847	842	1,502	1,648	1,717	5,710	6,112	-403
Total Expenditures	\$	68,498 \$	25,982 \$	31,532 \$	36,444 \$	46,709 \$	5 140,667	\$ 137,902 \$	2,765
Net	\$	13,210 \$	5,709 \$	12,646 -\$	6,569 -	§ 9,473 \$	5 2,313	\$ 2,142 \$	171

Fleming College



Board of Governors | Briefing Note

Topic:	Proposal to develop a new joint Trent-Fleming diploma-degree in Adaptive Forest
	Management
Report To:	Public Board Meeting
Meeting Date:	November 27, 2019
Prepared By:	Brett Goodwin, Dean, SENRS

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College approve the proposal to develop a new joint Fleming-Trent diploma-degree in Adaptive Forest Management.

Overview

Representatives from Fleming College (Brett Goodwin), Trent School of the Environment (Shaun Watmough, Stephanie Rutherford and Tom Whillans) and Rob Keen (CEO Forests Ontario*), met on July 23rd, 2019 to discuss the possibility of developing a new Joint Fleming-Trent Diploma and Degree in *Adaptive Forest Management*. This new program would be organized similarly to the existing Ecological Restoration program with many of the courses already existing at Fleming and Trent. The program would be designed to provide students with the skills to develop appropriate forest management strategies in the face of growing threats from climate change, invasive species and other stressors.

The program would involve students taking their first 2 years at Fleming. During this time students would earn a 2-year diploma in Adaptive Forest Management. The time at Fleming would include applied courses in forestry, a summer co-op during which students would gain field-skills, and the core requirements (e.g., Math, Chemistry) for upper year university credits that are taken at Trent in years 3 and 4. These core courses with equivalency already exist as part of the Ecological Restoration program. The Adaptive Forest Management program would be structured so that is does not compete with the existing Forestry Diploma but would make use of specific courses that could be developed to meet the learning outcomes of the proposed new Program. At Trent, students would take a suite of courses that would further develop their communication, GIS, data analysis and independent project skills and further develop academic content related to forest management in the 21st century. In particular, adapting to climate change, maintaining healthy forests, multi-use forests, and indigenous views of forest management would be key aspects of the degree. The proposed co-op and proposed courses at both Fleming and Trent would ensure experiential learning is embedded within the program.

The objective would be to develop integrated Diploma and Degree proposals that would be submitted for approval to the Province in the Fall of 2020 with students entering the new program in Fall 2021. This would require coordination between Trent University and Fleming College to ensure that the proposal is completed on time. Current indications are that there is a shortage of qualified people to fill the existing and the expected growth in forest management positions and presently no other university in Ontario offers a comparable undergraduate degree paired with the practical skills from a College diploma.

*Rob is also the CEO at Forests Ontario, a not-for-profit charity with in part a mandate to enhance and promote forestry education and has been asked to determine a high-level gap analysis of the potential opportunities

Background

Managed forests in Ontario have served as social, economic, and ecological assets for centuries. Ontario boasts 27.2 million hectares of managed forest supporting more than 280,000 jobs and generating \$11.5 billion annually from forest products. Sustainable forest management has enabled Ontario to leverage its forest resources for opportunities in tourism, recreation, wood products from homes to technology, and ecosystem health.

Ontario has been continuously recognized in studies and through third party certification (e.g. Sustainable Forestry Initiative) as a global leader in achieving a balance between the use of forests for social and economic opportunities without compromising the integrity of natural ecosystems.

The work that has enabled this is carried out by professionals in a range of fields including policy, conservation, forest management, industry, and biology to name just a few. Beyond those who work directly in the field, forestry is dependent on those who determine policy and regulatory frameworks within which management operates. While the central place of healthy forests in the health of our communities is firmly established, the management of forests and the relationship between our forests and broader society are changing and will present challenges and opportunities for the next generation of forestry professionals.

Emerging Opportunities

There is an emerging understanding and acknowledgement that a comprehensive strategy to address the challenge of climate change must involve enhancing and sustainably managing our forests. Managed forests incorporating regeneration and sustainable harvesting ultimately have the greatest capacity to sequester carbon and support other values such as habitat and multi-use forests. Embedding Traditional Environmental Knowledge would be a key component of this strategy.

Additionally, forest resources are being increasingly relied on in areas like energy and building. In the latter case, sustainably sourced wood is recognized as a less ecologically intensive alternative to other materials capable of storing rather than emitting carbon. As this understanding gains greater traction, the demand for wood products will increase and therefore require the continued sustainable management of forest resources as well as a greater understanding of business management and policy frameworks within the sector.

A changing climate will also have an impact on the health of forests and natural ecosystems, requiring those who manage these invaluable resources to apply new knowledge and strategies in ensuring their long-term health and viability. For example, a warming climate may entail that certain species will no longer be suited to a particular geography within the next generation. As a result, regeneration and management efforts will require a sound understanding of concepts like assisted migration and species diversity.

These dynamics will require addressing knowledge gaps as well as incorporating the development of "non-traditional" skills into the education and training of aspiring professionals.

Many forestry schools across Canada have seen significant increase in forestry enrolment. Unfortunately, University of Toronto continues to downgrade its forestry program, no longer proving an undergrad BScF. This does create an opportunity for other schools to fill this gap to addressing growing demands for forestry expertise.

Identification of Gaps and Emerging Opportunities

The following observations were determined as gaps and emerging opportunities through consultation with professionals in the forestry sector:

- The potential impact of climate change on the health of forests and strategies for supporting the adaptation of ecosystems (seed, assisted migration, incorporation into forestry management processes
- Fostering additive skills like communication, business management, public policy, industrial relations
- Understanding the policy and regulatory frameworks surrounding forest management and the development of forest products

These gaps have been identified in a preliminary analysis and with the development of a full proposal, no doubt other key areas will emerge.

Alignment with Strategic Direction

Fleming's new strategic plan calls for increasing collaboration between Fleming and Trent. There is an emerging opportunity in southern and central Ontario to fill a void left by the University of Toronto as they leave the Forestry sphere in undergraduate education. Between Trent's expertise in environmental programming, Fleming's expertise in forestry, and our proven track record of running combined diploma-degree programs, the two institutions are poised to work together to provide a unique and attractive educational opportunity preparing students to address emerging needs in the forestry sector.

The proposed program in Adaptive Forest Management can be another hall-mark collaborative program between Trent and Fleming.

Risks and Considerations

External Environment	🗌 Internal	Environment	inancial 🗌 Humar	n Resources	
Information Technology	🗌 Legal	Operational	🛛 Strategic	🗌 N/A	

There is a small strategic risk, in that failure to move this proposal forward would represent a missed opportunity to develop a program with Trent that fills a gap that is currently being left by the University of Toronto's withdrawal from the Forestry area. Overall, this is a low risk opportunity to pursue.

Supporting Documentation

No supporting documentation provided.

Fleming College



Board of Governors | Briefing Note

Topic:Proposal for a new Graduate Certificate in Environmental CommunicationReport To:Public Board MeetingMeeting Date:November 27, 2019Prepared By:Brett Goodwin, Dean, SENRS

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College approve the proposal to develop a new Graduate Certificate in Environmental Communication.

Overview

Interest in environmental issues has grown in the general public. This growing interest has driven an increasing interest in environmental reporting which has historically been addressed either by journalists without environmental sciences training or individuals trained in the environmental sciences fields who figure out the journalism piece as they go. Beyond journalism, there is also a need for communication managers versed in both traditional and social media within environmental NGOs. Fleming has a unique opportunity to develop a post-graduate certificate in Environmental Communication which would be embedded in an environmental sciences.

Program description/program idea.

The proposed program would be a 1-year post-graduate certificate in Environmental Communication. The program would be aimed at students who have completed a diploma or degree in an environmental field who are looking to develop communication skills to begin a career either in environmental journalism or in communications for environmental organizations. Teaching the communication skills would all be done in the context of environmental communication, reporting, and issues. The program would be class-room based but have an applied placement. We have a current agreement with Alternatives Journal, a leading environmental journal in Canada, which would provide the potential for applied projects for the students.

With the current Environmental Visual Communication program (which will be moving to the Frost campus in the near future) there is also the potential to increase the scope of some of the courses in that program to support both programs (e.g., the communication and multi-media courses could apply to both programs). Additionally, there would be opportunities for both programs to work together on applied projects.

Labour market description.

Journalism is expected to experience growth in Canada (up 8.3% by 2026) and Ontario (up 9.2% by 2026).¹ Additionally, the Government of Canada has committed to invest \$50 million over five years to support journalism initiatives.² Students trained in environmental communication would have a number of options available to them. While there is not much hiring by traditional media outlets, there is a great need for material produced by free-lance journalists, particularly for electronic outlets and social media. Also, many environmental NGOs have active communication departments which often hire employees with communication credentials.

Student target audience.

The new Environmental Communication program would be aimed at students coming out of environmental sciences fields who are interested in writing about environmental issues. The program

would parallel our current Environmental Visual Communication program, which has maintained an active interest by students, but would focus on writing instead of visual media. Furthermore, this would be the only journalism or communication program in Ontario focused on environmental issues and as such would be of interest to those students having completed an environmental credential and are now interested in transitioning into either journalism or communication roles.

Rationale for new program.

With increasing interest in environmental topics and a proliferation of media (particularly digital) there is a growing need for journalists trained in environmental issues who understand environmental issues and can report accurately to the general public. Similarly, environmental groups and NGOs require strong communicators to effectively communicate their message in a crowded marketplace. This represents an opportunity for Fleming to build on its strong reputation in environmental programming to create a unique, focused program to address this market need and to create individuals well-trained and likely to be successful in such a career.

Furthermore, there has been on-going interest in our Environmental Visual Communication program and the new Environmental Journalism program would complement that. With some shared courses we would gain efficiency in some of the course offerings. It may also be possible to structure the two programs such that a student could complete both in a shortened time frame. Finally, we have a MOU with Alternatives Journal, a well-regarded environmental journal in Canada, which can provide a built-in opportunity for student hands-on learning.

Estimated target start date: May 2021.

References

- ¹ Economic Modelling Inc. (2019). Occupational summary for journalists. Retrieved September, 2019 from <u>https://www.economicmodeling.com/</u>
- ² Department of Finance, Government of Canada (2018). Investing in middle class jobs: Fall economic Statement 2018. Retrieved from: https://budget.gc.ca/fes-eea/2018/homeaccueil-en.html

Alignment with Strategic Direction

The proposed program will be unique and able to produce quality students to address a need in the labour market. Also, the applied placement will allow the program to partner with publishers and NGOs in the community.

Risks and Considerations

External Environment	Internal	Environment 🗌 Fin	nancial 🗌 Huma	n Resources
Information Technology	🗌 Legal	Operational	Strategic	🖂 N/A

The proposed Environmental Communication Post-graduate Certificate would build on current strengths in environmental programing and, in particular, provide some synergy with our current Environmental Visual Communication program. Furthermore, given the lack of journalism and communication programs in both the province and the nation focused on environmental communication, the proposed program would allow Fleming to establish itself as the go-to program to prepare high-quality and competent environmental communicators.

We would request feedback on the proposed program and approval to move forward developing the program.

Supporting Documentation

No supporting documents were provided.

Fleming College



Board of Governors | Briefing Note

Topic:Proposal to develop a new College Certificate in Foundations of AquacultureReport To:Public Board MeetingMeeting Date:November 27, 2019Prepared By:Brett Goodwin, Dean, SENRS

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College approve the proposal to develop a new College Certificate in Foundations of Aquaculture.

Overview

Program description/program idea

The proposed **Foundations of Aquaculture** Program would be a 2 semester College Certificate. The program would focus on providing basic fish biology (e.g., basic anatomy and function, stress, disease recognition and control), basic aquaculture techniques (e.g., maintenance of infrastructure, water and oxygen monitoring, basic calculations), fish husbandry (e.g., feeding, breeding), and safety and environmental considerations. This material will be derived from our current Aquaculture post-grad certificate, though material will need to be winnowed and modified to match the level of the students in the program. The bulk of the program would be offered via on-line delivery with short, intensive hands-on portions interspersed throughout. These hands-on components could be offered in our hatchery during periods that the current Aquaculture grad-certificate students are away (break weeks and the May-June period) or at other facilities. Designing the program this way will allow for greater participation by potential students who cannot commit to moving to Lindsay to attend on Frost campus, will not place a burden on class-room space, and provides greater flexibility to provide the program to targeted employers. Finally, it may be possible to design this College Certificate in a way that successful graduates who amass industry experience could then enter our post-graduate certificate in Aquaculture when they are ready to advance their careers.

Labour market description

Aquaculture is a growing industry which is expected to continue to grow. With this growth comes the challenge for aquaculture companies to find trained workers to run and maintain their operations. Over the last few years a number of large aquaculture companies, many of which we have good relationships with (e.g, Cermaq, Mowi, Greig Seafood, Cooke Aquaculture and others), along with the Ontario Aquaculture Association have approached us expressing interest in having Fleming provide an on-line aquaculture program to prepare workers.

As well as the growth in the aquaculture industry, there is also a growing interest amongst Indigenous communities to develop aquaculture projects, which again require a trained work force to operate. The Pic River First Nation and Waubetek (an organization representing Indigenous aquaculture projects from Alberta to Ontario) have approached us about providing this sort of training for new and developing Indigenous aquaculture initiatives.

Finally, we have also had some conversation with Tassal Aquaculture in Tasmania, Australia who would also be interested in the on-line training piece. So, there is the potential to market the developed on-line program internationally.

Student target audience

The target audience would be students looking to train or re-train to enter the aquaculture industry. Given our preliminary discussions with industry partners and Waubetek, we expect that many of the students

will be directed to the program either from employers or Indigenous organizations who are contemplating or in the process of starting aquaculture ventures. In particular, we would expect that working through Waubetek training would be open to cohorts of students from particular Indigenous operations and the hands-on component could be offered at their facilities.

Rationale for new program

The idea for the College Certificate in Foundations of Aquaculture arose from discussions with both industry partners and Indigenous groups promoting aquaculture. There is a real need for trained workers to support the industry and to support aquaculture initiatives by various Indigenous groups. While our current Aquaculture Post-Grad Certificate is well received by industry and all of our graduates are employed in the industry, they tend to take on higher level jobs in aquaculture organizations. Our current post-grad certificate is not appropriate for all who might want to work in aquaculture and is too involved for industry to use as a way to quickly train workers. The proposed **Foundations of Aquaculture College Certificate** would address that gap in training.

Estimated target start date: September 2020.

Alignment with Strategic Direction

The proposed **Foundations of Aquaculture College Certificate** would align with the recent Strategic Plan in a number of important ways. The proposed program is in response to various requests for this sort of training, both by industry and Indigenous partners. The program will be designed to be entirely online with just a few intensive hands-on experiences, which matches the call for flexible delivery. The proposed program would be a true partnership with industry and Indigenous organizations focused on aquaculture. Finally, the program will embrace technology via the commitment to on-line delivery.

Risks and Considerations

🛛 External Environment	Internal	Environment 🗌 Fin	ancial 🗌 Humar	n Resources	
Information Technology	🗌 Legal	Operational	🖂 Strategic	🗌 N/A	

This proposed program has come directly from requests from industry and Indigenous partners. To not move the program forward risks alienating external partners, who may find other educational partners to work with.

We would request feedback on the proposed program and approval to move forward developing the program with our industry and Indigenous partners.

Supporting Documentation

No supporting documentation provided.



Board of Governors | Briefing Note

Topic:	New Program Proposal – Non-Profit Housing Management
Report To:	Public Board Meeting
Meeting Date:	November 27 th , 2019
Prepared By:	Jenny Olauson, Academic Chair, School of Business

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College approve the proposal to develop the graduate certificate in Non-Profit Housing Management.

Overview

In 2018, the Federal Government's Ministry of Family, Children & Social Development released its first ever, 10-year, \$55-billion (combined) "National Housing Strategy" (NHS). The Ontario Non-Profit Housing Association (ONPHA) followed closely with its "An Affordable Housing Plan for Ontario", both of which include not only the new build/repair/renewal of housing units, but also the development of "People, Communities and Partnerships". (National Housing Strategy, 2018) The introduction of these robust plans has resulted in the need for relevant and experienced Administrators.

The purpose of this document is to receive input/engage in consultation regarding the development of a 1-year (two semester), full-time studies, Ontario College Graduate Certificate in **Non-profit Housing Management** (NPHM). The program will be presented as a hybrid, delivering a combination of online and face-to-face courses, containing curriculum relevant to the development of professional non-profit housing (NPH) Managers.

The NPHM program will provide training in the management of administrative functions, beyond simply the day-to-day physical operations of a facility, to include the development and fostering of community partnerships with Federal, Provincial and Municipal governments and community stakeholders: Policy + Health + Housing.

Currently, there are no institutions in the Ontario College System, or within Canada, which offer postgraduate academic certification in NPH.

Alignment with Strategic Direction

This program aligns with the following Strategic Plan objectives:

- First mandate Focused on the needs of students and employers in the labour market through meeting needs of the NHS and ONPHA; and, Second Mandate be true partners in the community applied research in partnership with the community to meet community needs.
- Aligning with the Strategic Plan also gives alignment with the Business plan.
- Strategic Mandate Agreement 2 (SMA2) alignment for new programming needs to be in areas designated as current strengths and for growth. The school of Business could be both an area of strength and designated as an areas for growth.

Risks and Considerations

External Environment Internal Environment Financial Human Resources Information Technology Legal Operational Strategic N/A							
Risks that would impact or jeopardizeLikelihoodImpactthe success of the proposal or projectHigh/Medium/LowHigh/Medium/Low							
Change in Federal and Provincial housing operations/policies, reducing the need for external NPHM.Medium – change is expected.Low – Continuous updating of program curriculum; Agile practice.							

- As this program's primary target audience is expected to be working professionals, consideration must be given to the possibility of evening and/or weekend in-person classes.
- Future consideration of offering the program as part-time studies; evaluate during Annual Curriculum Renewal period, Winter/Spring 2021.

Supporting Documentation

N/A



Fleming College

Board of Governors | Briefing Note

Topic:	Proposal to convert the required co-op in Advanced Water Systems and Operations
	Management to an optional co-op
Report To:	Public Board Meeting
Meeting Date:	November 27, 2019
Prepared By:	Brett Goodwin, Dean, SENRS

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College approve the proposal to convert the required co-op in Advanced Water Systems and Operations Management to an optional coop.

Overview

Context

The Advance Water Systems Operations and Management Coop (AWSOM) Program is a postgraduate certificate which was launched September 2014. The program has a mandatory 480 hour co-op component in the third semester, which equates to approximately 45% of total program hours (1062 hours).

The program started with 19 students but has since seen a considerable increase, especially in international student numbers (see graphic below). Securing co-op positions for over 40 students is very challenging and alternative arrangements had to be made to enable student graduation (primarily using Prior Learning Assessments of previous work experience). The program prepares students for a very specific market and current cuts in government funding have further reduced the number of available co-op positions. In addition, international students face transportation challenges as they often lack Ontario drivers licenses and many positions are in rural areas without public transportation access.



Enrollment AWSOM 2014 - 2019

🛾 Int 📕 Dom

Alignment with Strategic Direction

The proposed changes to the AWSOM program would support the Strategic Plan's call for more applied research at Fleming. Also, since many of these projects will be important for various water treatment organizations this will increase our community partnerships.

Risks and Considerations

External Environment	🛛 Internal	Environment 🗌 F	⁻ inancial 🗌 Huma	n Resources
Information Technology	🗌 Legal	🛛 Operational	🖂 Strategic	🗌 N/A

Concerns

The inability to find suitable co-op positions has a direct impact on the students as they are not able to graduate before completing the mandatory hours. This is especially a challenge for international students who are tied to strict visa requirements.

Prior Learning Assessments for coops are not recommended and generally not implemented by Ontario Colleges. In addition, the co-op is an important component of the program as it provides the experiential learning and hands-on experience which our students require for a successful career in this field.

Having a mandatory co-op in a program which relies on a highly specialized market limits the ability of a program to grow. Ensuring co-op positions for all students would require setting a lower cap on enrollment numbers, which would run counter to our need to grow student enrolments under SMA3.

Modifications

A modification to the current structure of the program could alleviate the problem without compromising the quality of the program while ensuring valuable hands-on learning experience.

We recommend changing the co-op from a mandatory to an optional co-op and providing students with an alternative applied research project. The applied research project can be conducted in collaboration with industry partners or by utilizing facilities on campus (e.g., CAWT). The hours for the applied research project will be equal to the co-op hours. Organizations like the Ontario Clean Water Agency, who are currently not able to support paid co-op positions, could provide various applied projects and would benefit from a collaboration with Fleming College. This would strengthen our relationship with industry and community partners and be in line with the Fleming College's strategic priorities. This change would require additional staffing to provide coordination around the applied projects and to oversee student work, but those costs would be manageable given the programs current contribution to overhead (was 40% in 2017) and tuition that would be charged for the applied research semester. We would like to have this change in programing in place for Fall 2020.

Given that the co-op course accounts for 40% of the hours in the program, switching to an optional co-op and adding the applied research course as the other option will need to go to MCU for approval.

Conclusion/Recommendations

The current co-op format of the AWSOM program creates a challenge for student success and the ability to grow the program. Changing the mandatory co-op to an optional co-op and providing students with the option to work on an applied research project would alleviate the problems.

It is recommended that Board of Governors provide feedback on this proposed change and that we be allowed to move forward with the change.

Supporting Documentation

N/A

BUSINESS CASE Artificial Intelligence & Virtual Reality

Date:	November 15, 2019		
Board of Governors:	⊠ Decision		
Proposed By	Pam Stoneham, Dean		
School of Study:	School of Trades and Tech	nology	
Proposed Launch Date:	Fall 2020		
Offering:	⊠ Full-Time	□ Part-Time	
Student Enrolment Target:	YEAR 1 = 44	YEAR 3 = 192 YEAR 5 = 192	
New Faculty Resources	Existing full time and part ti	me faculty	
Semesters / Hours:	3 Semesters / 900Hours		
Applied Learning Method(s):	⊠ Applied Project ⊠ Co	o-op/Placement	
First Graduating Class	Class of 2021		
Credential Ontario College (OC):	 OC Diploma OC Advanced Diploma Fleming College Diplom 	 □ OC Certificate ⊠ OC Graduate Certificate a □ Fleming College Certificate 	
Program Mapping:	Appendix I		
Career Opportunities:	Application or computer programmer, operating systems programmer, programmer analyst, software programmer, interactive media developer, computer game developer, and software developer, software design engineer, application architect, embedded software engineer, computer pottware opginger, contract and pottware designer.		
Proposed Tuition (per Semester):	\$2,450.00 (Domestic) / \$7,6	635.00 (International)	
Program Start-up Cost:	\$279,124.19		
Incremental Cost:	YEAR 1 = \$246,773.67	YEAR 3= \$503,838.47 YEAR 5 = \$503,838.47	
Net Income:	YEAR 1 = (\$391,190.67)	YEAR 3 = \$212,357.40 YEAR 5 = \$129,593.08	
OCQAS Program Validation	PendingApproved	APS Number: FLEM01307 Validation Date: July 10, 2019	
MTCU Code(s):	71901		
NOC Code(s):	2173: Software Engineers a and Interactive Media Deve	and Designers & 2174: Computer Programmers plopers	
CIP Code(s):	11.0804: Modelling, Virtual	Environments and Simulations	

Endorsed

\boxtimes	Academic Council	\boxtimes	Program Advisory or Reference Group		Senior Management Team
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Strategic Enrolment Management

Other: _____

Acknowledgements

Thank you to the members of our AI/VR Academic Development Team including Parisa Poulazadeh, Mamdouh Mina, Jesse Melo, and George Seto, Subject Matter Experts; Jason Jackson, Chair of the School of Trades and Technology; Victoria Maystruck & Jodie Black, Teaching and Learning Specialists; Linda Poirer, Director of Strategic Planning and New Program Development; Anna McNichol, Program Development Lead 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 industry representatives including: Ian Millar, Founder of SoftCover VR; Josh Gonsalves, Co-Founder and CEO of Contraverse; 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 Artificial Intelligence and Virtual Reality Ontario College Graduate Certificate program consists of a three-semester program with applied learning taking place in the lab and culminating with a third semester workplace experience through field placement or workplace projects. This new program will provide a unique learning opportunity for students by integrating two typically separate fields of studies in experiential learning environments. Emerging trends in industry include integration of artificial intelligence (AI) in virtual reality (VR) simulations for industry/trades training, integrated applications and gaming.

Students will learn to obtain and analyse data sets in deep learning and machine learning applications, design and implement interactive simulations for virtual reality, work collaboratively using principles of project management, and design and create software to fulfill industry project requirements integrating AI into VR technologies. All work completed in the program will be in accordance with relevant legal statutes and ethics codes. In addition to gaining technical knowledge, students will expand skills in project and time management, collaboration, independent initiative, and communication.

This program aligns well with the 2019-2024 Fleming College Strategic Plan. In particular, through industry feedback and labour market data the AIVR program aligns with the first priority to meet the needs of students and employers in the labour market. Industry driven workplace projects and field placements in the third semester of the program gives alignment with the second priority of the Strategic Plan, allowing the college to be true partners in the community by meeting the needs of industry. The fourth priority of the plan is the embracement of digital knowledge and tools. This program is designed to be at the forefront of upcoming new technologies and applications by creating new applications for artificial intelligence in the fast-evolving world of virtual reality.

The sectors of AI and VR are two of the fastest growing disruptive technologies in industry with projected labour shortages over the next ten years. With the combination of soft skill development, in-depth knowledge and authentic experiences gained throughout this certificate students will be well equipped to fill the labour gap in industry sectors to be able to provide AI embedded VR simulations with many applications including but not limited to manufacturing, business, financial, health care and trades. With a large capital investment in space and equipment, the Artificial Intelligence Virtual Reality program is expected to show a net income of \$12,576.23 in year five of the program, with a 39% contribution to overhead with revenue received.

Following approval of the program funding by MTCU and the Board of Governors, the program will be sent to marketing, loaded into Evolve and OCAS, at which point detailed course development will commence.

2. Program Description

The Artificial Intelligence and Virtual Reality program will belong to the School of Trades and Technology. Graduates of the program will receive an Ontario College Graduate Certificate upon successful completion of the three-semesters of study. Throughout this program, students will learn how to design and create software embedding artificial intelligence in virtual reality simulations to meet industry needs. It emphasizes modern software design and artificial intelligence frameworks, machine learning, big data fundamentals, with visualization and programming in virtual reality. The first two semesters will consist of instruction taking place through hybrid learning with online lectures and in laboratory work to allow for applied learning opportunities. Students will then apply their knowledge and skills to applied projects, demonstrating their learning and achievement of the vocational learning outcomes. The third and final semester will consist of either a field placement or workplace projects on campus driven by industry partners. The field placement and workplace projects will demonstrate achievement of all vocational learning outcomes through integration of artificial intelligence and virtual reality elements in industry projects.

2.1. Program Mapping

Vocational Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. design virtual reality applications using appropriate digital platforms, aesthetic and technical principles to maximize end-user experience.

2. communicate effectively and collaboratively with colleagues and clients throughout all stages of artificial intelligence and virtual reality software creation and production.

3. apply project management principles to successfully complete software development projects to client specifications.

4. select appropriate hardware and software protocols specific to the field of virtual reality

5. design and implement interactive simulations for virtual reality applications to meet client project specifications.

6. integrate VR and AI elements to meet industry project requirements.

7. design and apply deep/machine learning algorithms and models to meet client project specifications.

8. adhere to confidential, ethical, legal and professional standards of practice when performing tasks and responsibilities.

9. analyse and apply datasets and mining principles to meet machine learning software project requirements.

Below is a table of the course names, hours and delivery breakdown by semester (lec = lecture, lab = laboratory, sem = seminar, SDL = student directed learning, GLH = guided learning hour).

Artificial Intelligence & Virtual Reality Ontario College Graduate Certificate mapped to MTCU code #71901 (Computer Animation)				
Semester Course Course Name Hours Delivery				
1	NEW 1	Introduction to Data Analysis	60	1 hr lec (online), 3 hr lab
1	NEW 2	Applied Machine Learning	60	1 hr lec (online), 3 hr lab
1	NEW 3	Virtual Reality	60	1 hr lec (online), 3 hr lab
1	MGMT292*	Agile and LEAN Project Management	45	1 hr lec (online), 2 hr sem
1	NEW 4	Multimedia and Graphics for VR	60	1 hr lec (online), 3 hr lab

1	NEW 5*	Security, Data Governance and Ethics	30	1- 2 hr lec (online)	
			Total S	emester 1 Hours: 315 hours	
2	NEW 6	Machine Vision	60	1 hr lec (online), 3 hr lab	
2	NEW 7	Deep Learning with Tensor Flow	60	1 hr lec (online), 3 hr lab	
2	NEW 8	Mixed Reality	60	1 hr lec (online), 3 hr lab	
2	COMP557*	Data Center/ Cloud Computing	45	1 hr lec , 2 hr lab	
2	NEW 9	AI/VR Simulations	60	1 hr lec (online), 3 hr lab	
			Total S	emester 2 Hours: 285 hours	
Program E	lectives (Stude	ents choose one of the following	g):		
3	NEW 10	Field Placement (Elective 1)	300	Experiential Learning (Off- Site)	
3	NEW 11	Workplace Project (Elective 2)	300	Experiential Learning	
	Total Semester 3 Hours: 300 hours				
Total Program Hours: 900 hours					

*New 5 will be shared with Applied Data Analytics, MGMT 292 will be shared with Mechatronics and Applied Data Analytics, COMP 557 will be shared with WIN

2.2. Essential Employability Skills/Soft Skill Development

As a graduate certificate program with previous post-secondary education admission requirements, Essential Employability Skills would have been met in prior diploma or degree programs. However, this program will also emphasize and reinforce these employability skills, specifically: communication, critical thinking and problem solving, information management, collaboration and teamwork, and time management.

Furthermore, the reference group identified that employees in the AI/VR sector need to work on developing communication, critical thinking and collaboration skills to improve effectiveness in the industry. Critical thinking skills are developed while meeting VLOs all VLOs with the exception of VLO 2. Vocational Learning Outcome 2: "communicate effectively and collaboratively with colleagues and clients throughout all stages of artificial intelligence and virtual reality software creation and production" specifically addresses communication and collaboration skills.

2.3. Admission Requirements

An Ontario College Diploma, Ontario College Advanced Diploma, degree or equivalent in computer or electrical engineering technology OR an acceptable combination of related work experience and post-secondary education. Proof of English language proficiency is required.

3. Fleming Student Fundamentals

3.1. Student Target Audience and Student Demand for Program

According to Fleming College student enrollment data, 17% of students entering the School of Trades and Technology have completed either a college diploma or university degree prior to attending. Of the first semester students surveyed, 27% of the students indicated they intended to continue their education upon graduation from their current programs with 45% planning to apply to another program at Fleming. Graduates from Fleming College's Computer Engineering Technology program and from similar programs located at other colleges will be interested in this graduate certificate to develop skills and knowledge in order to compete in the growing field of AI/VR.

Fleming College enrollment data has also shown that international students show an increased number of applications to graduate certificate programs. This graduate certificate program will appeal to students entering from internal and external diploma and advanced diploma programs, Fleming's international student market, and currently employed individuals with a desire to increase their skills in this area. The hybrid format of the courses will allow students increased flexibility to maintain work commitments while completing the program. A large interest of potential future students in the virtual reality demonstration was also noted by faculty at Fleming College's open house events over the past year.

This program will be complementary to existing programs at the college, providing pathways to gain industry experience in a growing field. This program will not compete with other Fleming College Ontario Graduate Certificate programs. While it is related to the proposed Applied Data Analytics program, the AIVR program offers a different skill and knowledge base to target different employment streams. Agile and LEAN project management and Security, Data Governance and Ethics will be common courses to both AIVR and Applied Data Analytics. The Data Center/Cloud Computing course will be shared with the existing Wireless Information Networking program. Sharing of the courses will increase efficiency and reduce cost in delivery of content. Currently there are no other programs in the province offering the integration of artificial intelligence in virtual reality applications.

3.2. The Student Experience

Students entering this program will have the advantage of small class sizes with an emphasis on applied learning. The School of Trades and Technology will be offering current technology used within industry to provide students with realistic experiential learning opportunities. In addition, Fleming College has secured a maker space in downtown Peterborough which will allow students to practice and reinforce learning off site. One of the primary faculty members teaching in the program has experience embedding AI in VR simulations, which is new and emerging in the field. The program will also allow students to connect with industry partners to increase their professional networks. Students will graduate with actual industry experience combined with the skills and knowledge necessary to succeed in this emerging field.

Fleming College provides students with numerous supports to help ensure success. Students in the AIVR program will have access to tutoring, counselling, library, and health services. In addition, international students will have the support of the International Student Services including peer mentoring, cultural events and trips, and ESL tutoring. Indigenous students will have the supports of the Indigenous Student Services including cultural spaces and advising.

3.3. Experiential Learning and Applied Research Opportunities

The AI & VR program gives students a unique skill set to fill demands in the emerging labour market. Students can choose either an off-site Field Placement or an on-site Workplace Project course for their third semester. Application of knowledge through industry driven projects in the field placement or workplace project portion of the program will give students an advantage when competing for employment upon completion of the program. This portion of the graduate certificate will allow students to gain industry contacts, references and experience integrating both fields to better compete with graduates from other programs that specialize either AI or VR.

3.4. Education Pathway 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 AIVR program, specifically those enrolled in the Applied Data Analytics, Wireless Information Networking, Mechatronics or WIN programs. Common courses shared with these programs will give students some credits when entering.

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 AIVR graduates to apply credits towards the completion of a degree.

4. Strategic Alignment

4.1. Strategic Mandate Agreement

Graduates of this program will be able to apply their knowledge to various industries by creating AI embedded VR applications aligning with the following areas of strength in the 2017-2020 Strategic Mandate Agreement:

- Business Management
- Marketing/Retail Sales
- Health Technology
- Resources
- Electronics

The program also aligns with the following areas of expansion identified in the 2017-2020 Strategic Mandate Agreement:

- Business Management
- Health Technology
- Resources

Throughout the program of study, students will be learning how to embed artificial intelligence programming into virtual reality applications in order to be able to provide training and other applications across a variety of employment areas. Graduates will be

able to apply their skills to develop simulations in any area of employment including business management, health technology and resources.

The AIVR program also aligns with other priorities of the 2017-2020 Strategic Mandate Agreement. By expanding program offerings within the School of Trades and Technology the new program builds off the Computer Engineering Technology diploma program contributing to Program Enrichment and Growth. Through development of a pathway from diploma programs, small class sizes, and industry partnerships in the community it also aligns with the second priority of Student Success First creating development of new skills and community partnerships to ensure success of new graduates.

4.2. Fleming College Strategic Plan

Through alignment with the first priority of the 2019-2024 Fleming College Strategic plan, the needs of students and employers in the labour market will be addressed. Students in the AIVR program will gain knowledge and soft skills through experiential learning in core AI & VR courses. Additional project management skills will be learned allowing graduates to excel in a fast-growing area of the labour market.

The AIVR program also aligns with the second priority of the strategic plan, to be true partners to the community. The third semester of the program is based on the formation of community partnerships, allowing students to assist industry partners in the completion of projects that will solve real world needs during field placement or workplace project completion. Opportunities also exist to expand applied research activities in the creation of novel solutions to problems or needs in our community.

In addition, this program will also align with the fourth priority of the strategic plan, we will embrace technology and digital tools. Artificial intelligence and virtual reality are at the forefront of new technologies and applications being developed. The program will utilize leading technology, tools, and hardware throughout all courses and in the final semester in the completion of a field placement or workplace project.

4.3. Fleming College Business Plan

The AIVR program aligns with several priorities of the 2019-2020 Fleming College Business plan. Alignment with the first priority, focusing on the needs of students and employers in the labour market will be met by gaining knowledge and soft skills needed to succeed in a fast growing area of the labour market and will align with objective 1.2.1 – creation of new program with a hybrid delivery mode. The use of the maker space by the students in the AIVR program will also give Fleming College an expanded presence in downtown Peterborough.

Through the creation of community partnerships in workplace projects and field placements, the AIVR program also aligns with the second priority of the business plan. There is also the opportunity to build pathways for students of the AIVR program between Fleming College and Trent University or other universities including Ontario Tech University (formerly UOIT) and Slago University.

Finally, the AIVR program also aligns with the fourth priority, we will embrace technology and digital tools by providing the newest technologies and applications to students in this program.

4.4. Fleming College Academic Plan

This program aligns with the 2015-18 Academic plan priorities including Pathways, Learning Design, and Applied Research. The graduate certificate creates new pathways for students graduating from college diploma and advanced diploma programs or incoming from university programs. The learning design for this program is based on applied learning opportunities allowing for authentic assessment of culminating projects within the courses. Applied Research may also be integrated through research and development projects in the last five weeks of lab-based courses.

4.5. Fleming College Sustainability Plan

The 2019-2022 Fleming College Sustainability Plan includes several priorities and goals to be met over the term of the plan. The third priority is a "Green Curriculum", specifically goal 3.6 is to "Launch new programs supporting sustainability". The AIVR program includes an Agile and LEAN 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.

The AIVR program also includes a workplace project or field placement elective in the third semester. The application of artificial intelligence embedded in virtual reality simulations can be applied across many sectors including projects that improve training and knowledge with applications to environmental sustainability. The fourth priority of the Sustainability Plan is "Green Research". Specifically, the program aligns specifically with goal 4.1 – "Increase the number of applied research opportunities for faculty and students in building science, aquaculture, health and community development programs."

4.6. Fleming College Internationalization Plan

Ontario College Graduate Certificate programs have shown an increased number of international student applications from enrollment data. As a graduate certificate program, it will attract an increased number of international student applicants. Possibilities exist for international placement opportunities during the final semester of the program. Once revisions to the Fleming College Internationalization Plan are completed, the new program will be aligned with the plan in terms of opportunities for our international students.

5. Environmental Scan

5.1. Labour Market

Labour Market Description

Given the speed and evolving nature with which the AI and VR fields are emerging in the labour market, distinct employment positions have yet to emerge. AIVR graduates will design and create software embedding artificial intelligence in virtual reality simulations to meet industry needs. The scan for employment potential fell under two professions, Computer Programmers and Interactive Media Developers National Occupation Code (NOC) 2174 and Software Engineers and Designers NOC 2173 (Job Bank). In addition, Virtual Reality based reference group members stated in the April 15th meeting that the

field is growing and emerging so quickly that graduates with the skills and knowledge in this program will perform well in the field.

Computer Programmers and Interactive Media Developers (NOC 2174) perform some of the following job duties (JobBank, 2018):

- Computer programmers
- 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.
- Interactive media developers
- Program animation software to predefined specifications for interactive 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 may include application or computer programmer, operating systems programmer, programmer analyst, software programmer, interactive media developer, computer game developer, and software developer. Employers for this occupation fall in software development firms, information technology consulting firms and information technology units in the private and public sectors.

Approximately 430 people work as computer programmers and interactive media developers in the Muskoka - Kawarthas region. They are employed primarily in the following sectors:

- Professional, scientific and technical services (NAICS 54): 59%
- Wholesale trade (NAICS 41): 8%
- Information, cultural, arts, entertainment and recreation services (NAICS 51, 71): 8%

Within Ontario approximately 68,350 people are employed in this occupation. The primary sectors include:

- Computer systems design services (NAICS 5415): 44%
- Monetary Authorities central bank and securities, commodity contracts and other intermediation and related activities (NAICS 521, 522, 523): 9%
- Information and cultural industries (NAICS 51): 9%
- Federal government public administration (NAICS 911): 5%

Software Engineers and Designers (NOC 2173) perform some of the following job duties (JobBank, 2018):

- 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 may include software design engineer, application architect, embedded software engineer, computer software engineer, software architect, and software designer. It is important to note that students graduating from this program will not have the engineer designation. 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.

Approximately 130 people work as Software engineers and designers in the Muskoka - Kawarthas region. The occupations fall primarily into the following industry sectors:

- Professional, scientific and technical services (NAICS 54): 58%
- Information, cultural, arts, entertainment and recreation services (NAICS 51, 71): 25%
- Wholesale trade (NAICS 41): 6%

In Ontario, approximately 27,000 people work in this occupation, primarily in the following industry sectors:

- Computer systems design services (NAICS 5415): 46%
- Information and cultural industries (NAICS 51): 9%
- Wholesale trade (NAICS 41): 9%
- Monetary Authorities central bank and securities, commodity contracts and other intermediation and related activities (NAICS 521, 522, 523): 6%
- Other professional, scientific and technical services (NAICS 5414, 5416-5419): 6%

A summary of the percentage of total jobs in the industry employed by sectors is listed in the table below for the combined NOC codes (EMSI Analyst, 2018):

Industry/Sector	Occupation Jobs in Industry (2017)	Percentage of Jobs (2017)	% of Total Jobs in Industry (2017
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Computer systems design and related services	634	25.6%	26.8%
Software publishers	142	5.7%	29.4%
Electric power generation, transmission and distribution	114	4.6%	1.2%
Computer and communications equipment and supplies merchant wholesalers	111	4.5%	10.2%
Local, municipal and regional public administration	77	3.1%	0.5%

Within both NOC codes, more than 95% of employed individuals work full time compared to 80% across all occupations. While 75% of computer programmers work year-round, 78% of software engineers are also employed all year compared to the 66% average across all occupations. Computer programmers who worked part of the year worked an average of 32 weeks, while software engineers worked an average of 34 weeks. Both occupations are above the average 31 weeks for all occupations. In addition, 10% of computer programmers and 7% of software engineers are self-employed. Over all occupations, 10% of workers are self-employed.

Wages estimates for positions related to AIVR					
Community/Area	Low Wages (\$/hr)	Median Wages (\$/hr)	High Wages (\$/hr)		
Canada	23.41	39.67	60.61		
Ontario	25.43	42.07	62.50		
Muskoka-Kawartha Region*	28.85	45.67	67.31		
Toronto	25.97	42.31	62.50		

The following table includes the average wage across both NOC codes for selected regions within Ontario and Canada, given the potential that students from the program may not remain in the area.

*Data for Software Engineers used, unavailable for Computer Programmers.

Please see Appendix II for samples of job postings retrieved March, 2019.

Industry Trends

Artificial Intelligence and Virtual Reality industry sectors have experienced significant growth and are 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). Blackberry has invested 1.4 billion dollars in the purchase of an AI based company called Cylance to integrate AI with BlackBerry's mobile platforms (Jackson, 2018). Another well-known company, Microsoft, has updated their Azure service package to make AI technologies available to business and developers with guidelines on ethical practices (Simpson, 2018). Several popular tech companies, including Apple, Google, Amazon and Facebook are adopting

and or investing in the XR industries through AR glasses, e-commerce, or investments in hardware and content development (Boland, 2018).

Portman of the VR/AR Association reports results of the XR (extended reality) industry Survey including that those in the industry believe growth in VR has been strong with a 43% growth for augmented reality (2018). He further reported that those working in the XR industry were involved in education, architecture/engineering/construction and healthcare sectors and that industries and consumers still need to be convinced that XR platforms are of benefit needing suppliers to invest more in product development. An expansion of virtual reality in the education sector using AR and VR in teaching and learning is also predicted by Dell (2018). With the investment in AI and VR technologies by big industry the growth of employment in the AI-VR sectors is expected to continue.

The Information and Communications Technology (ICTC) council states that AI and VR/AR are two of the five main emerging disruptive technologies and even with an increase of 24% in ICT enrollment, the output is still insufficient (2017). ICTC also stated that gaining job experience is crucial with cultural, interpersonal and business skills needed in order to succeed in the workplace where emerging workers is still insufficient in the sector. In alignment with the ICTC recommendations, the AIVR program has been designed with input from industry reference group members and will provide robust experiential learning opportunities to increase graduate job experience.

Labour Market Outlook

The ten-year national outlook for employment under both NOC codes 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/VR sectors and projected shortage of labour, there is a favourable market potential for graduates leaving the AIVR program as demonstrated by the following tables.

Projection of Cumulative Job Openings and Job Seekers over the Period of 2017- 2026				
Software Engineers and	Designers (NOC 2173)			
Category	Level	Share (%)		
Expansion Demand	10,700	52		
Retirements	7,900	38		
Other Replacement Demand	1,200	6		
Emigration	900	4		
Projected Job Openings	20,700	100		
Category	Level	Share (%)		
School Leavers	24,400	112		
Immigration	8,600	40		
Other	-11,200	-52		
Projected Job Seekers	21,700	100		

Projection of Cumulative Job Openings and Job Seekers over the Period of 2017- 2026					
	Computer Programmers and Interactive Media Developers (NOC 2174)				
Calegory	Level	Share (76)			
Expansion Demand	24,400	47			
Retirements	22,300	43			
Other Replacement Demand	2,900	6			
Emigration	2,600	5			
Projected Job Openings	52,300	100			
Category	Level	Share (%)			
School Leavers	68,900	128			
Immigration	17,800	33			
Other	-33,000	-61			
Projected Job Seekers	53,800	100			

While employment postings were lacking in the Muskoka-Kawartha region, more than 350 job postings were noted in Ontario with over 150 postings spanning the two NOC codes in the Toronto region. For job searches focused on artificial intelligence over 300 job postings were noted in Ontario, with more than 75 jobs noted in the virtual reality sector. Several job postings are listed in Appendix II.

Employment trends for the combined occupation codes is projected to have an increase of 16.4% employment in the Peterborough, Durham, Northumberland and Kawartha Lakes region (ESMI, 2018). A further scan of the Toronto region also shows a projected increase of 19.3% employment for the combined occupations (ESMI, 2019). The following figures illustrate the projected increase in employment within the two sectors.

Occupation Summary for 2173 and 2174 Combined:

Peterborough, Durham, Northumberland, Kawartha Lakes (EMSI Analyst, 2018)

2544	16.4%			
Jobs (2018)	% Change (2018 - 2026)			
41% below National average	Nation: 16.9%			
Toronto, Durham, Halton, Peel, and York. (EMSI Analyst, 2019)				
Toronto, Durham, Halton, Peel, and Yo	rk. (EMSI Analyst, 2019)			
Toronto, Durham, Halton, Peel, and Yo 55,846	rk. (EMSI Analyst, 2019) 19.3%			
Toronto, Durham, Halton, Peel, and Yo 55,846 Jobs (2018)	rk. (EMSI Analyst, 2019) 19.3% % Change (2018 - 2026)			







This chart demonstrates the trend for employment in the GTA region across both NOC Codes.

Professional Memberships

While there are no professional standards or designations required to work in this field, the following professional organizations are available for memberships:

- Canadian Artificial Intelligence Association
- XR Association (XRA)
- VR / AR Association Toronto Chapter
- Information and Communications Technology Council
- 5.2. The Competition

There are three new programs which could be considered competitors for this program, this indicates the recognition of the importance of new programming in the artificial intelligence and virtual reality fields by Ontario colleges. None of the programs offer integration of Artificial Intelligence in Virtual Reality simulations. Due to how recent the implementation of the programs are limited application or enrollment data exists for the following competitor programs.

Durham College is launching an Artificial Intelligence Analysis, Design and Implementation graduate certificate in fall 2019. The program consists of two semesters on campus and an optional third semester work term. The Durham College program focuses on application of AI to business analytics. No enrollment data is available for this program.

Virtual Reality Multimedia Production is being offered by Mohawk College as an Ontario College Post Graduate Certificate with two semesters of study. This program focuses on the design and application of virtual reality skills. Mohawk is also offering a one year Augmented and Virtual Reality Innovation Certificate that launched in January of 2019.

The AIVR graduate certificate program will provide students with an integration of two fields of study with applied learning opportunities embedded throughout the curriculum. The integration of artificial intelligence in virtual reality projects is an advantage. Another major advantage of the Fleming College program over the competitor programs is the mandatory third semester Field Placement / Workplace Project option. Most job postings require in depth experience or a degree in the field. The third semester will give students the needed workplace experience over competing graduates from other programs and a unique specialization. Fleming's program will give students industry contacts in addition to their portfolio of authentic industry projects when seeking employment.

Total Registrations by College for Programs mapped to MTCU code #71901 – Computer Animation (Virtual Reality Multimedia Production)					
College	2015/2016	2016/2017	2017/2018	2018/2019	
Mohawk*	-	-	-	11	
Durham**	-	-	-	-	

*Colleges in the Ontario Central Region **Program launch Fall 2019

6. Community Collaboration

6.1. Fleming College Board of Governors

Item	Meeting Date	Endorsed (yes/no)
Concept Proposal	November 28, 2018	Yes
Business Case	November 27, 2019	

6.2. Fleming College Councils and Committees

The following committees, councils and/or external community partners were consulted during our research and program development process:

Council, Committee or Group	Meeting Date	Endorsed (yes/no)
Academic Council	Dec. 6, 2018	Yes
Program Implementation Committee	June 6, 2019	Yes
Reference Group (external)	April 15, 2019	Yes (see Letters of Support in Appendix IV)
Senior Management Team	November 2018	Yes
Strategic Enrolment Management	November 2018	Yes

7. Program Implementation

7.1. Responsible School

School of Trades and Technology

7.2. Staffing Requirements

Faculty for this program will include existing contract faculty and will include some new contract faculty as well. New contract faculty have been hired to do some of the curriculum and teaching.

Current staffing expectation for this program will include: 1- Full time (already hired and considered a multidisciplinary expert) 3- Part time faculty

7.3. Space and/or Equipment Requirements

Lectures will be delivered online. The artificial intelligence courses (NEW 1, NEW 2, NEW 6, NEW 7) will need to be run in the existing CSI lab to accommodate intakes of 36 students. This may necessitate the creation of additional computer lab space at the Brealey Campus. It is proposed that room B3120 be converted into computer lab space to serve CSI, CTN/CTY, WIN, Mechatronics and other lab-based computer technology programs. If classes are scheduled out of a computer lab, it will necessitate access to network and power capabilities for student devises.

Capital Considerations for set-up of a new computer lab space include:

- 36 Computers
- Network cable drop installations for internal network
- 2-Post Telecom Racks (re-deploy 10 spares)
- 4-post server rack for GPU servers
- 2-post Telecom rack for cable terminations
- 2300VA UPS battery power for servers
- 10GB 24-port L3 Switch for GPU Servers
- licenses for OpenSource NOS for 10GB switches
- 1GB 48-port L3 Switch for computer workstation endpoints
- upgrade electrical to 30A circuits for GPU servers

The virtual reality courses (NEW 3, NEW 4, NEW 8, NEW 9) will be run in blocks of 12 at the maker space in downtown Peterborough. Scheduling will need to be completed similar to offsite scheduling of Applied Projects, Mechatronics and Computer Engineering. In addition to scheduling consideration, the program requires virtual reality hardware and other components included in the costing estimate.

7.4. Information Technology Requirements

As specified in section 7.3, the program will require the use of computer lab space on campus. IT has been consulted in the requirements and costing for the potential opening of new lab space to be shared with multiple programs.

Students will be required to bring your own device (BYOD) for some courses. The recommended BYOD is a gaming laptop to provide the best experience for virtual reality (VR). A gaming laptop also provides adequate performance for machine learning/deep learning training. 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. The primary consideration is GPU performance for either workload. Below are the minimum specifications for VR and ML.

Minimum VR Laptop Specifications GPU: Nvidia GTX 1060 or better CPU: Intel Core i7, 8th Generation or newer Memory: 8GB Storage: 512GB SSD or 1TB SSD

Minimum Machine Learning Specifications GPU: Nvidia RTX 2060 or better CPU: Core i7 or i9, 9th Generation or newer Memory: 8GB Storage: 512GB SSD or 1TB SSD

For both configurations the laptop should have at least two USB 3.0/3.1 ports, a HDMI 1.4 or DisplayPort 1.2 video port, video display resolution minimum 1920x1080.

7.5. Program Promotion Strategy

Marketing Targets should include current Computer Engineering Technology Students and Alumni, Trent University and Ontario Institute of Technology (formerly UOIT) Computer Science/Engineering Students, International Students and program advisory committee members to circulate to employees. In addition, marketing may consider online social media marketing to employed individuals that wish to upgrade their skills.

The timeline for Website Promotion is mid-fall 2019 (Following approval by Board of Governors and MTCU funding approval).

Possible professional organizations to target include:

- Canadian Artificial Intelligence Association
- XR Association (XRA)
- VR / AR Association Toronto Chapter
- Information and Communications Technology Council
- 7.6. Office of the Registrar

Upon final MTCU approval for funding, program specifics will be loaded into Evolve.

7.7. Timelines

Registration: Spring 2020 Promotion start date: October 2019 (upon MTCU approval) Expected launch date: Fall 2020 Expected first cohort of graduates: Class of 2021 Program Review date: 2024/ 2025

8. Financial

8.1. Incremental Costing Summary

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	\$169,708.00	\$701,974.00	\$740,544.00	\$740,544.00	\$740,544.00
Incremental Costs	\$246,773.67	\$481,278.32	\$503,838.47	\$503,838.47	\$503,838.47
Net Investment	\$314,125.00	\$14,348.14	\$24,348.14	\$102,112.46	\$107,112.46
NET INCOME	(\$391,190.67)	\$206,347.54	\$212,357.40	\$134,593.08	\$129,593.08

8.2. Program Costing

Program costing assumed a September in-take the first year. Starting year 2, September and May in-take each year with enrolments growing to a constant entering class of 18 domestic and 18 international students. Further a retention rate of 90% was assumed between semesters. Staffing was set at 50% part-time faculty and 50% full-time faculty. The full-time faculty are not 100% dedicated to this program. In year 2, there is costing for a new lab space. This capital expense has affected net income of this program. The development costs were factored in for developing all curriculum, additionally years 3, 4 and 5 had modest development costs to allow for refining curriculum based on the first two years of offering the program. Please see Appendix V for a complete costing summary.

8.3. Financial Risks

The biggest financial risks would be low enrollment numbers of both domestic and international students given the expected large financial commitment to software, hardware and space investment. A secondary risk is lack of industry support in field placement partnerships and workplace projects.

8.4. Countermeasures

To counteract the financial risks due to capital expenditures and development costs, advertisement should begin as soon as MTCU funding approval is obtained with targeted marketing campaigns. Further actions include compiling a more indepth list of supporting industries willing to take students on placement and or provide workplace projects. The final semester consists of electives for either placement or a capstone project, this will allow students options if suitable field placements are not available.

9. 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)

10. Conclusion / Recommendation

THAT the Board of Governors of Sir Sandford Fleming College approve the Artificial Intelligence – Virtual Reality Ontario College Graduate Certificate program for launch in Fall 2020.

11. References

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12. Appendices

12.1. Appendix I: Program Map



Ontario College Quality Assurance Service

Service de l'assurance de la qualité des collèges de l'Ontario

Artificial Intelligence and Virtual Reality

Fleming College | APS # FLEM01307 | MTCU # 71901 Ontario College Graduate Certificate | Funding requested - full-time

Purpose

Through collaboration with industry, the Artificial Intelligence and Virtual Reality program will provide students with the state of the art design and development technologies. Artificial intelligence is set to become the new database for next generation applications. This program aligns well with new software trends in industry, namely "Augmented Analytics", "AI-Driven Development" and "Autonomous Things". It emphasizes modern software design and AI frameworks, machine Learning, big data fundamentals, alongside visualization and programming in virtual reality. Students graduating from this program will be equipped with all necessary skills required to develop applications that embed Artificial intelligence into virtual reality. They will also be able to apply digital ethics and privacy guidelines within the AI solutions.

Admission

Ontario College Diploma, Ontario College Advanced Diploma, Degree, or equivalent

Occupational Areas

The graduates of the Artificial Intelligence and Virtual Reality program can work on all software projects that involve intelligent use of data, such as data analytics, big data, machine learning, and more. The graduates can find employment in various financial, health, transportation, social and multimedia, insurance, telecommunications, large retail, tech start-up, and government companies and institutions. Graduates will also find opportunities developing responsive training software.

Employment fields fall under two NOC Codes for this field of study, NOC 2174 and NOC 2173.

Common job titles may include software design engineer, application architect, embedded software engineer, computer software engineer, software architect, and software designer. It is important to note that students graduating from this program will not have the engineer designation. Employers for this sector include technology consulting firms, information

technology research and development firms, and information technology units through private and public sectors, or are self-employed.

Laddering Opportunities

The Artificial Intelligence and Virtual Reality graduate certificate is open to graduates from various Engineering Technician/Technology or similar programs, as well as to anyone with a degree in a computing field.

The graduates of this program can pursue a university degree in all institutions available to our Computer Engineering Technician program.

Program VLOs

- 1. design virtual reality applications using appropriate digital platforms, and aesthetic and technical principles to maximize end-user experience.
- 2. communicate effectively and collaboratively with colleagues and clients throughout all stages of artificial intelligence and virtual reality software creation and production.
- 3. apply project management principles to successfully complete software development projects to client specifications.
- 4. Select appropriate hardware and software protocols specific to the field of virtual reality
- 5. design and implement interactive simulations for virtual reality applications to meet client project specifications.
- 6. integrate virtual reality and artificial intelligence elements to meet industry project requirements.
- 7. design and apply deep/machine learning algorithms and models to meet client project specifications.
- 8. adhere to confidential, ethical, legal and professional standards of practice when performing tasks and responsibilities.
- 9. analyse and apply datasets and data mining principles to meet machine learning software project requirements.

Curriculum

NEW 1 - Introduction to Data Analysis (Semester 1 - 60.00 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.

• NEW 2 - Applied Machine Learning (Semester 1 - 60.00 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.

- NEW 3 Virtual Reality (Semester 1 60.00 hours) Virtual Reality (VR) introduces the architecture and design of 3D VR systems and the associated hardware. In this course, student will learn about the history VR, VR applications and the creations of a VR user interface. Student will also explore geometric movement and lighting systems through integrated lab activities.
- NEW 4 Multimedia & Graphics for VR (Semester 1 60.00 hours)

Fundamentals of multimedia systems will be taught in this course. Students will apply essential principles of game design and user experience. Unity3D will be used to adapt and create interactive simulations.

• MGMT292 - Agile and LEAN Project Management (Semester 1 - 45.00 hours)

This is a multi-disciplinary course designed to help students develop their skills in managing technical projects using Agile and LEAN project management methods. Students will learn how to identify and plan a project and work toward achieving their project goals. They will interact with a team in ways that contribute to effective working relationships and the achievement of the project goals. They will communicate in written, spoken, or visual format at various stages of the project. The course also includes evaluating the technical, interpersonal, and communication processes the team uses.

• NEW 5 - Security, Data Governance and Ethics (Semester 1 - 30.00 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.

• NEW 6 - Machine Vision (Semester 2 - 60.00 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.

• NEW 7 - Deep Learning with TensorFlow (Semester 2 - 60.00 hours)

This deep learning course is based in the Python programing language and will provide students with experience in pandas, matplot, 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.

• NEW 8 - Mixed Reality (Semester 2 - 60.00 hours)

This course will provide the students with an opportunity to learn about Mixed Reality (MR) with a focus on Extended Reality (XR) and Augmented Reality (AR).Different delivery methods including mobile devices, various headsets, and software platforms will be explored. Students will work in teams creating environments to interact with these combined physical and virtual worlds, and solve real world problems by applying XR and AR solutions.

• NEW 9 - AI/VR Simulations (Semester 2 - 60.00 hours)

This course will teach students to combine their knowledge of AI and VR applications. Students will manipulate objects, graphics, and sounds to create immersive VR and AR simulations which incorporate AI methods introduced in other program courses. Search strategies for algorithm optimization will be introduced and applied. Pattern recognition and object tracking using various platforms, including Unity3D, Vuforia, and ARtoolkit will be used to create solutions for industry applications.

• COMP 557 - Datacenter/Cloud Computing (Semester 2 - 45.00 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.

• NEW 10 - Field Placement (Semester 3 - 300.00 hours) (Elective) This field placement course is designed to allow students the opportunity to further develop their skills and abilities within an industry partner setting. This course provides students an opportunity to apply principles from both AI and VR to assist industry partners in software development. While completing their field placement, students will be in regular communication with a faculty mentor and industry supervisor and complete regular reflective reports.

• NEW 11 - Workplace Project (Semester 3 - 300.00 hours) (Elective) This course allows students to work through a guided project from design, development to implementation. This team-based project will provide student the opportunity to demonstrate their combined knowledge in AI, machine learning, game design, and the realities (VR,AR,MR). 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 standard, and formally present their findings.

VLO Mapping

Code	1	2	3	4	5	6	7	8	9
NEW 1							Х	Х	Х
NEW 2						Х	Х		Х
NEW 3	Х	Х		Х	Х				
NEW 4	Х			Х	Х	Х			
MGMT292		Х	Х					Х	
NEW 5								Х	
NEW 6						Х	Х		Х
NEW 7		Х					Х		Х
NEW 8	Х	Х		Х	Х	Х			
NEW 9	Х		Х	Х	Х	Х	Х	Х	
COMP 557								Х	Х
NEW 10	Х	Х	Х	Х	Х	Х	Х	Х	Х
NEW 11	Х	Х	Х	Х	Х	Х	Х	Х	Х

12.2. Appendix II: Employment Postings

Employment Postings Retrieved in March, 2019.

SAMPLE POSTING 1 - AI

Data Scientist / Artificial Intelligence Architect AirGate Technologies, Inc. Vaughan, ON

Job Type: Full-time

AirGate is an Award Winning Gold Certified Provider of Cloud Services and Solutions built for Microsoft Azure and Modern Workplace. With Deep Cloud expertise in Infrastructure, Data, Artificial Intelligence, Machine Learning, Security, Networking, Governance, Automation and DevOps, AirGate is chosen by some of the world's most respected companies to achieve cloud transformation and operational excellence.

Culture is incredibly important at AirGate – we have built an inclusive workplace that strives to deliver the very best for our clients and we leverage a team based model built on our corporate values of integrity, excellence, creativity and perseverance.

As a Data Scientist/Artifiical Intelligence Architect you will have the opportunity to work at the vanguard of technological innovation and to drive real world transformation that impacts businesses and consumers in incredible ways as a force for good.

You will work with Machine/Deep Learning, Cognitive Services, Data Modeling and AI Solutions in a team based environment. You will have strong consulting skills, exemplary communications skills and business acumen.

You will work closely with the client teams to define and architect the solution for our clients. This will include estimating the components required to provide a comprehensive AI solution that meets and exceeds the client's expectations delivering tangible business value to our clients.

- Direct and influence client Bot/Virtual Agent architecture and solution development
- Create and maintain client reference architecture and solution assets as well as code libraries.
- Lead, collaborate and work efficiently amongst a team of developers and designers.
- Work autonomously and be comfortable building projects from start to finish
- Create Proof of Concept environments.

Provide consultative Business and System Integration services to help clients implement effective digital solutions. Understand and translate customer needs into business and

technology solutions via the range of leading digital methodologies and/or solutions that drive business value.

Drive discussions and provide consultation around digital transformation, the customer digital journey, functional/application designs and ensure technology and business solutions represent business requirements.

The candidate is expected to deliver cognitive applications that solve/augment business issues using leading AI technology frameworks.

Required Competencies and Skills:

- Bachelor's degree in Computer Science, Engineering, Data Science or 4 years of IT/Programming experience
- Minimum 2+ years of hands on web application development experience in a multi-tier architecture with Java, Python, JavaScript
- Experience in development using MEAN stack (Node.js, Angular.js, Express.js, MongoDB)
- Data exchange technologies like JSON
- Experience designing and building RESTful web services
- Desire to learn and use APIs (like face recognition, image analytics, text analytics, language understanding etc.) from leading technology vendors (Microsoft) to build Cognitive applications
- Basic understanding of Machine Learning techniques & industry applications
- Familiarity with No SQL databases (i.e. MongoDB, Hadoop, Hive Spark, etc.), data streaming and integrating unstructured data will be plus.
- Exposure to rules engines e.g. drools, ESBs e.g. MuleSoft & integration with enterprise systems
- Highly preferred Web UI or dashboarding experience (ie CSS, HTML, BI, etc.
- Knowledge of professional software engineering best practices for the full software development life cycle
- Knowledge and hands on experience on implementation of Chatbot using Microsoft Bot Framework
- Experience working in a DevOps environment, and using industry standard tools (GIT/Jenkins, Terraform)
- Experience in Linux operating systems
- Knowledge of shell scripting

https://www.indeed.ca/jobs?q=artificial%20intelligence&l=%20%20ontario&vjk=c6ce08cf44 7a8edc

SAMPLE POSTING 2 - AI

Senior Backend Software Developer

Fortran Traffic Systems Toronto, ON

Job Type: Full-time

Based in Toronto, Fortran Traffic Systems Limited is a leader in the North American traffic industry and at the forefront of innovation in intelligent transportation management systems. With the arrival of transportation technologies such as Connected Vehicle/Automated Vehicle (CVAV) and Vehicle-to-Everything (V2X), Fortran is advancing its platforms to harness the multitude of benefits that these emerging technologies can provide to road operators and traffic management agencies. Fortran offers a challenging environment, rich in R&D, that fosters creativity and rewards excellence. We are looking for a Senior Software Developer to join our growing team, learn and grow with us.

SUMMARY OF JOB FUNCTIONS:

The successful candidate will work within a team developing high performance and sustainable traffic control and management systems. The work will include:

- Designing and implementing of Connected-Vehicle and V2X systems
- Backend Software Development
- Detailed design, unit-level code development, software integration and testing
- Participate in system architecture design
- Conduct / participate in design and code reviews, identify potential problems and performance issues, provide feedback and corrections, evaluate code compliance to standards
- Analyzing complex functions, procedures, and problems to deliver creative, logical, and effective solutions that meets the specified requirements

QUALIFICATIONS:

Extensive experience in the following areas:

- C++ programming within a Linux (or Unix) environment
- SQL and NoSQL databases (PostgreSQL, MongoDB, etc.)
- Object-oriented design and programming principles
- Linux (or Unix) environment Operating systems principles and communication protocols
- Team player with excellent interpersonal skills
- Organized, focused and persistent ability to work to the plan and meet delivery dates
- Excellent Problem Solver and quick learner

BONUS POINTS FOR:

- Knowledge or aptitude for learning web application development stack (NodeJS, AngularJS, etc.)
- Knowledge of scripting languages (Python, Perl, etc.)

- Experience in Machine Learning, Data Mining or Machine Intelligence (Artificial Intelligence)
- Real-time software development experience
- Cross-platform mobile app development
- Agile / Scrum experience

https://www.indeed.ca/jobs?q=artificial%20intelligence&l=%20%20ontario&vjk=e7bdbac3b 34d01af

SAMPLE POSTING 3 - VR

VR Experience Developer VR Headspace Inc Oshawa, ON

\$15 - \$25 an hour, Full-time We are looking for a fulltime freelance/contract developer for approximately 40 hrs/week.

Job Summary

We are looking for an all-around developer able to handle both front-end & back-end development focused on C# and Unity3D, but can adapt to new languages and technologies as we grow.

We are looking to expand our development team with someone who has experience developing virtual reality applications for industries beyond gaming. This person is open to challenging themselves, collaborating on solutions as a team, and is able to work independently on projects.

This person would communicate well with teams ensuring that projects meet demands and deadlines while understanding the technological constraints that may be present for the particular project.

Required Education, Skills and Qualifications

- Computer Science degree or Equivalent
- 2+ years of industry experience
- Strong understanding of C#
- C#: 2 years (Required)
- Strong understanding of Unity 3D
- Strong understanding of Object Oriented design patterns
- Strong understanding of Databases & their functionalities
- Must Drive own Vehicle

Bonus

• 3D Modeling experience

- Experience with Shaders & Technical Art
- Understanding of art pipeline
- Understands development pipeline for Mobile applications
- Understands ASP.NET & its development pipeline
- Has experience with developing in other engines: Unreal, CryEngine, etc.
- Has experience developing with Virtual Reality Headsets
- Has experience developing with Augmented Reality Headsets

Company Profile

VR Headspace is an innovative development company that builds cutting-edge Virtual Reality applications. Experiences include interactive training, simulations, virtual tours, and education. VR Headspace utilizes state-of-the-art hardware like Oculus Rift, HTC Vive, Windows Mixed Reality to provide their clients with the ultimate immersive experience. VR Headspace believes that Virtual Reality and Augmented Reality will become a part of everyday life, and support organizations to keep up with this technology.

https://www.indeed.ca/cmp/VRHeadspace/jobs/Vr-Experience-Developerb4a1342089a6df37?vjs=3

SAMPLE POSTING 4 - VR

Software Development Engineer

Advanced Micro Devices, Inc. Markham, ON

At AMD, we push the boundaries of what is possible. We believe in changing the world for the better by driving innovation in high-performance computing, graphics, and visualization technologies – building blocks for gaming, immersive platforms, and the data center.

Developing great technology takes more than talent: it takes amazing people who understand collaboration, respect, and who will go the "extra mile" to achieve unthinkable results. It takes people who have the passion and desire to disrupt the status quo, push boundaries, deliver innovation, and change the world. If you have this type of passion, we invite you to take a look at the opportunities available to come join our team.

New College Graduate Engineer - Platform Solution

RESPONSIBILITIES:

- Design, develop and optimize features to enable new and emerging use-cases in the exciting fields of Virtual and Augmented Reality
- Provide technical leadership in the development of features spanning across AMD's graphics kernel mode and user-mode driver components
- Closely interact with internal teams and partners to develop innovative, groundbreaking technologies and bring them to market quickly

REQUIREMENTS:

- Strong C/C++
- Windows and/or Linux driver development experience
- 3D graphics driver or game development experience is a plus
- A passion for developing new, innovative, leading-edge technologies at a fast pace
- Solid knowledge of X86 assembler language and X86/X64 CPU instructions is a plus.
- Solid knowledge of PC architecture.

• Solid knowledge of Windows and Linux kernel as a plus.

EDUCATION:

• BS

https://www.indeed.ca/jobs?q=virtual%20reality&l=ontario&vjk=5efba60aece9bdf2

SAMPLE POSTING 5 - AI

SR&ED Specialist

Bevertec - Toronto, ON \$60,000 - \$90,000 a year

If you want to be exposed to exciting R&D initiatives in IT, software, and telecommunications, this role is for you. Our client's multidisciplinary Business Tax Incentives (BTI) team, specializing in tax credits for Scientific Research and Experimental Development (SR&ED), is seeking a candidate with a software development background to deliver advisory services to our clients in GTA East to Peterborough area. We offer an excellent opportunity for talented people to play a key role in a rapidly growing and dynamic Incentives practice.

Your key responsibilities

As a SR&ED Specialist you will be working with a variety of clients from entrepreneurs to public corporations at the forefront of technology in fields such as artificial intelligence, fintech, gaming, cloud computing and robotics. You will evaluate their innovation and R&D projects, and prepare their SR&ED claims. This involves meeting with CEOs, CTOs, Chief Architects, and Software Managers to assess their project's eligibility to receive funding, establishing how much they can claim, and writing technical project descriptions that detail the innovation and development activities for each project. You will discuss new prototypes, innovative software architectures, improved algorithms, and new frameworks in some of the most cutting edge technologies. If you want to be exposed to exciting R&D initiatives in IT, software, fintech, AI and telecommunications, this role is for you.

Skills and attributes for success

Meet with clients and leverage your broad knowledge of current technologies to identify opportunities for claiming SR&ED in fields such as software development, cyber security, AI, blockchain, VR/AR, wireless networks, data analytics, defense, robotics, and the Internet of Things (IoT).

- Prepare detailed project descriptions for client R&D activities.
- Assist in reviews with the Canada Revenue Agency.
- Manage client expectations and strict deadlines.
- Participate in market initiatives and networking events with a Startup Ecosystem
- Expand your network in the high growth tech start-up world

https://www.indeed.ca/jobs?q=artificial%20intelligence&l=ontario&advn=77036294707786 13&vjk=451194c74893d610

SAMPLE POSTING 6 - AI

Academic Programs Development - Internship

IBM - Markham, ON

Job Description

Change the world at IBM. There aren't many companies who can say they have been an integral part of the global business landscape for more than a century. While the world has changed considerably over the past 100 years, IBM, our people and our offerings have continuously led the way with business and technology innovation.

Today, we are more than a hardware, software and services provider, yet we remain true to our heritage as a team of collaborative forward-thinkers, focused on making business and society work better. We are part of the fabric of everyday life and stand for world-changing progress.

Join a company where you can make an impact and literally change the world. With so many different opportunities available – the sky is the limit!

This position resides in Markham, Ontario and is a 16 (internship) month work term commencing May 2019. It is mandatory that all applicants are **enrolled in full-time studies at a post-secondary institution and returning to full-time studies upon completion of the work term**.

What IBM Offers You?

- Work directly on product and services that affect our clients, while having access to cutting edge software technology
- Work on projects which are challenging, innovative and rewarding
- A business casual dress code and flexible work hours, to ensure work-life balance
- Access to the Future Blue Community IBM's large student community that provides networking opportunities, sporting and social events.

Closing Date: Open Until Filled

We are seeking 2 individuals with proven technical skills, each for a 16-month internship in an

exciting, high paced environment. Your role will require extensive programming knowledge and be able to develop and demonstrate innovative solutions. You will be interacting with both internal and external individuals to discuss academic curriculum needs. A substantial amount of work will be done with IBM's learning management system, virtual machines and IBM's Cloud platform as a service and the tools offered within the Cloud. You will be required to work with clients, faculty, and developers to offer support as a subject matter expert on our academic programs, and topics such as IBM Watson

You will be involved in all aspects of program development including curriculum rollout, planning, course setup and delivery based on client needs. You will conduct briefings and demonstrations and develop proofs of concept. Candidates will be working on new academic program offerings in the capacity of project management, operation and logistics. The academic programs will require for constant communication with higher institution clients and work with them on the seamless delivery of the program. This role is highly demanding in terms of deadlines and will require proven time management skills.

Successful candidates will have or be willing to become technical subject matter experts in one of the following areas: security, IoT, artificial intelligence, cloud, mobile.

Additionally, you will be engaging with developers in technical discussions and will be often required to present at events and meetings. Candidates for this role should have an interest in keeping up to date about emerging technologies, possess an innovative mindset and be driven to provide exceptional service to clients. Travel may be required for this position.

Required Technical and Professional Expertise

- Co-op or internship program enrollment is mandatory
- Working knowledge of IBM Cloud (PaaS, IaaS), hybrid cloud
- Demonstrates communication and interpersonal skills
- Proven time management skills
- Java, JavaScript, Python, and other scripting languages
- Familiar with software design patterns & principles
- Proven knowledge of full stack development (front end, back end, database, etc.)

Preferred Tech and Prof Experience

- Knowledge of IBM products
- Experience with various programming languages
- Understanding of software engineering
- Basic knowledge of Node.js

https://www.indeed.ca/jobs?q=artificial%20intelligence&l=ontario&vjk=e432e5750ddb0c05

SAMPLE POSTING 7 - AI

Data Science Engineer Quartic.ai - Oakville, ON \$65,000 - \$110,000 a year

Quartic.ai puts the power of Artificial intelligence in the hands of industrial users to achieve true greatness. Our team is made up of world-class data scientists, software developers, and industry experts with decades of experience.

We are solving one of the greatest challenges for industry 4.0 with Machine Learning. MetaTrainerTM, a most scalable AutoML platform we build for the industry, empowers users to promote, explain and create adoption of a machine learning solution that they designed and built.

Requirements

- A good track record of building robust and scalable distributed production systems
- Very comfortable with Scala, Spark and Kafka
- Experienced with Python, Machine Learning Tools (Xgboost, Tensorflow, Pytorch, ...)
- Passionate about Data Science and Machine Learning
- Solid background in Software development in general

Benefits

We are a fast paced startup with lots of fun and excitements. We don't micromanage you and we have you covered for health care, dental, vision, etc. as well as reimbursement for your gym membership and gas expenses.

https://www.indeed.ca/jobs?q=artificial%20intelligence&l=ontario&vjk=d481bc68d0d5cebc

SAMPLE POSTING 8 – AI AND VR

Technical Lead, Ventures

Myplanet - Toronto, ON

We're Myplanet Ventures, helping startup and established companies launch new ventures. We're a team of talented developers, designers and strategists, who collaborate closely with partners and customers to quickly identify opportunities, prototype solutions, and validate business/technology ideas. In practice, we dive deeply into different challenges every 6-8 weeks, moving from Deep Learning to Augmented Reality to Conversational UIs, always focused on making an impact for our customers and partners. We're looking for great humans to join our cause.

The Job

We're looking for a mad scientist, comfortable moving between known and uncertain technologies, adept at finding/creating shortcuts, that enable the team to deliver value in

accelerated timelines. A versatile, vocal, pragmatic, futurist who can advocate their vision, while playing nicely with others, and striving for the best possible user experience in the time available.

The Actions:

- Assume role of technical lead, partnering closely with the team to set strategy, technology delivery and validation methods to prove the hypotheses
- Guide early-stage project progress, including discovery, technical strategy and assistance, scoping and architecture development
- Provide technical leadership and hands-on contribution to software products
- Build MVPs that help validate user demand and product-market fit, for and with customers/partners
- Mentor other team members, helping them grow and improve their tradecraft
- Be a vocal member of the technical community, demonstrating Myplanet's value in the ecosystem

Desired Skills & Experiences:

- 5+ years of hands-on experience with a variety of programming languages and frameworks
- BS/MS in Computer Science, Electrical Engineering or equivalent program
- Experience building complex systems in accelerated timelines
- Experience mentoring and leading other humans to do great things
- Deep Knowledge of Conversational Interfaces (IVR, Alexa, SMS, Google Assistant), Artificial Intelligence, Data Science, and/or Augmented/Mixed/Virtual Reality
- Comfort and experience prototyping with controller boards, like Raspberry Pi or Arduino
- Superb oral and written communication skills, with the ability to convey technical concepts simply, as well as turn non-technical requirements into technical specifications

Benefits & Perks:

- Explore ongoing opportunities for professional development: training, conferences, certifications, and in-house peer mentorship
- Experiment with new techniques, wear multiple hats, and learn about new disciplines. We emphasize accountability for outcomes, but autonomy in activities
- Pursue independent projects, explore new ideas, and challenge yourself to become a thought leader in your field with 5 days of dedicated "Awesome time" (self-directed professional development) annually
- Enjoy a flexible schedule of full-time hours, health/dental benefits and private US coverage
- Work from a modern, ergonomic space complete with standing/sitting desks and an open-concept social atmosphere

Commitment to an Inclusion

We are committed to fostering an inclusive and accessible environment as we work to build a workforce that reflects the diversity of the community in which we live, including those with disabilities. We are dedicated to providing accommodations in all parts of the hiring process in accordance with the Accessibility for Ontarians with Disabilities Act and the Ontario Human Rights Code. If you require any accommodation, we will work with you to meet your needs.

https://www.indeed.ca/jobs?q=virtual%20reality&l=Ontario&vjk=a7add69c3f4a9c23

SAMPLE POSTING 9 - VR

VR Game Programmer Little Guy Games Toronto, ON

About Us

Little Guy Games is a game development studio located in the heart of Toronto. We are currently working on VR, PC, and console projects. If you dig Virtual Reality, have experience working with Unity, and want to work in a cool place on unique projects, this is a great opportunity for you!

Job Requirements

- Must have experience working with Unity
- Experience with Virtual Reality is nice-to-have
- Strong programming skills in C#
- Able to develop scalable and agile architectures and systems
- Works well with others to establish features and sprint goals
- Able to iterate on his / her own work to deliver high-quality work
- Must enjoy sports!

12.3. Appendix III: Competitors

COLLEGE	PROGRAM TITLE	LENGTH, TYPE (DIPLOMA, CERT., POST)	DELIVERY METHOD(S)	OTHER (UNIQUE TO THE PROGRAM)
Durham College	Artificial Intelligence Analysis, Design and Implementation	Graduate Certificate Two semesters (optional third semester work term)	In Class Delivery Model	Laptop required Launching in September 2019, "it is the <u>first program</u> of its kind in Canada"
Mohawk	Virtual Reality Multimedia Production	Graduate Certificate Two semesters	In Class Delivery Model	EON Reality has set up a VR lab at Mohawk
Mohawk	Augmented and Virtual Reality Innovation Certificate	Certificate	**NOT FOUND ON WEBSITE	

12.4. Appendix IV: Letters of Support

To: Dean Jason Jackson School of Trades and Technology Sir Sandford Fleming College 599 Brealey Drive Peterborough, Ontario, K9J 7B1

This letter is to support School of Trades and Technology, Sir Sandford Fleming college, for "AI & VR" program that is planned to start Fall 2020.

Artificial intelligence (AI) and virtual reality (VR) are highly demanding and trending topics 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 & VR 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 e-learning 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 and virtual reality job market in Ontario. Please do not hesitate to contact me if any future information is needed.

Mehdi Semsarzadeh, Ph.D. Senior Software Developer, Advanced Micro Device (AMD), Canada Mehdi.semsarzadeh@amd.com

enson7.l

St. Michael's

Inspired Care. Inspiring Science.

Date: May 27, 2019

Dean Jason Jackson School of Trades and Technology Sir Sandford Fleming College 599 Brealey Drive Peterborough, Ontario K017B1

RE: Letter of Support for Software Engineering Analyst - AI & VR Program

Dear Dean Jason Jackson:

I write to support the following proposed program:

Program name: Software Engineering Analyst – AI & VR. School: School of Trades and Technology Proposed start date: Fall 2020 College: Sir Sandford Fleming

for approval by the Ministry of Training, Colleges and Universities.

The proposed program is focused on training individuals with software engineering background as professionals with expertise in artificial intelligence (AI) and virtual reality (VR). The timeline and courses of the program are designed to mostly cover fundamentals of AI and VR in the first year of the program with a focus on practical implementation in the second half of the year one.

Most of the current candidates for data science/machine learning positions lack sufficient fundamental knowledge of AI and practical experience in implementation of corresponding technologies. The proposed timeline and courses in this program is indeed important to meet the needs in industry. As discussed in the committee meeting, this program needs to have proper admission requirements to attract top-quality individuals with enough related software engineering background to ensure success of the candidates and the program.

AI plays an important role in financial and healthcare sectors. There is a vast interest and investment in developing AI solutions in healthcare sector to improve patient care. As the investment in AI and growing, I believe graduates of this program will be in demand in industry.

30 Bond Street, Toronto, ON M58 1W8 Canada 436360.4000 Fully affiliated with the University of Toronto. stmichaelshospital.com

St. Michael's Inspired Care. Inspiring Science.

Based on my evaluation of the program, discussions with the committee members, and my experience in industry and academia, I strongly support the proposed Software Engineering Analyst – AI & VR Program.

Sincerely,

liteny.

Hojjat Salehinejad Data Science Specialist St. Michael's Hospital, 30 Bond St, Toronto, ON M5B 1W8, Canada

PhD Student, Department of Electrical and Computer Engineering, University of Toronto 10 King's College Rd Toronto, ON M5S 3G4, Canada

E-mail: salehinejadh@smh.ca Tel: 416.864.6060 x77688

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JOSH GONSALVES CO-FOUNDER, CEO, CONTRAVERSE INC.

110 Bond St. Toronto, ON. | josh@contraverse.co

Thursday, July 25, 2019

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

Dear College Board of Governors:

Please accept this letter of support for the new Artificial Intelligence and Virtual Reality Ontario College Graduate Certificate program in the School of Trades & Technology at Sir Sandford Reming College, which has a proposed start date of Fall 2020. I am an entrepreneur, founding Contraverse Inc. in 2017, with interests in Virtual Reality (VR) and Artificial Intelligence (AI) for multimedia, entertainment, industrial training and advertising purposes, with a particular focus on projects developed with the Unity and Unreal Engines.

I have been actively involved in and a big supporter of the Artificial Intelligence and Virtual Reality Ontario College Graduate Certificate program at Fleming, which is a collaborative initiative. Since it was proposed to me in early 2019 by Mamdouh Mina, I have advised the program designers on my industry experience in the Virtual Reality industry since 2013.

This new program will focus on a broad level of learning skils that will be fimely and relevant in for my company in developing new cutting edge Virtual Reality and AI products for the use in entertainment, training, and industrial use cases. For example, at Contraverse, we have many design and business-focused individuals that would be able to rapidly innovate on our products and services with the addition of technology-focused individuals who have a key understanding of underlying Virtual Reality and Artificial Intelligence technology. While our team can implement high-level pre-built widgets and pre-built tools, we have a strong need for individuals who can build such technology at a very low level. I believe this program can be a catalyst for developing such individuals with these skills.

The curriculum for this new program is very thorough, covering the latest technologies such as Virtual Reality and Artificial Intelligence information systems, which will keep students on the cutting edge of industry needs. This knowledge base would be ideally suited for an Artificial Intelligence and Virtual Reality Ontario College Graduate Certificate program position. In addition, the emphasis on both industry and lab work fits in well with our mandate of exploring and implementing new technologies in an ever-changing industry.

I am willing to help with some aspect of the program development and implementation, especially in areas of hands-on experience in research projects and hands-on industry work experience. Guest lectures on Virtual Reality User Experience are also possible, as are site visits. In addition, I am also able to review the general curricula of the program for validation and refinement.

To this end, I can support students directly as a mentor and providing field experience at my firm on real projects that will impact people all around the world. For example, students could develop Virtual Reality experience and tools that will be used by several industries such as the entertainment and gaming, industrial training, and e-commerce solutions that will reach millions of end users, where the students can gather real world data and implement it in their studies.

In summary, I think the new Artificial Intelligence and Virtual Reality Ontario College Graduate Certificate program at Fleming will be valuable for training graduates in essential skills for developing a technical understanding of Virtual Reality and Artificial Intelligence that are very relevant to this emerging job market. I fully support this program and make myself available in any capacity to help teach the next generation of Artificial Intelligence and Virtual Reality Ontario College Graduate students. Sincerely,

Josh Gonsalves Co-founder, CEO, Contraverse Inc.

12.5. Appendix V: Costing Summary

Pro	gram Costii	ng	1		-	
	Artificial In	telligence &				
Program Name	Virtual	Reality	Date/Versi	on	2019-04-10	
	Ontario	College			Trades &	
Credential	Advanced	l Diploma	School De	an	Technology	7
			Net Dome	stic		
Gross Domestic Tuition	24	50	I uition (le	SS id 8%)	20	054
	24	.50		22	2.54	
			Net Intern	ational		
Gross International Tuition (per semester)	76	35	Tuition		58	335
			Base Oper	ating		
			Grant (BO	G) por WELL		
			(@ corrido	or mid		
WFU (WtxFu)		1	point)	4150		
			Small Nor	hern		
WELL per comostor	0	22	Enhancement		272	
	0.	33	Ennancen	lent	212	
Domestic E	nrolment P	roiections				
Description	FY01	FY02	FY03	FY04	FY05	
Sem1	12	36	36	36	36	
Sem 2	10	32	32	32	32	
Sem 3	0	23	28	28	28	
Sem 4		0	0	0	0	
Sem 5		0	0	0	0	
Sem 6		0	0	0	0	
Total enrolment	22	91	96	96	96	
On an if any line has						
Со-ор іт арріїсаріе						
International	Enrolmont	Projections				
Description	FY01	FY02	EY03	FY04	EY05	
Sem1	12	36	36	36	36	
Sem 2	10	32	32	32	32	

Description	1101	1102	1103	1104	1105	
Sem1	12	36	36	36	36	
Sem 2	10	32	32	32	32	
Sem 3	0	23	28	28	28	
Sem 4		0	0	0	0	
Sem 5		0	0	0	0	
Sem 6		0	0	0	0	
Total enrolment	22	91	96	96	96	
Co-op if applicable						

		Incremental	Costing			
	Reve	enues/Sourc	e of Funding			
Description	FY01	FY02	FY03	FY04	FY05	Total
Domestic Tuition	49,588	205,114	216,384	216,384	216,384	903,854
International Tuition	128,370	530,985	560,160	560,160	560,160	2,339,835
MTCU grant clawback	-8,250	-34,125	-36,000	-36,000	-36,000	-150,375
Other (list)						
Co-op funding	0	0	0	0	0	0
Brogram Boyonuos	160 708	701 074	740 544	740 544	740 544	2 002 214
Flogram Revenues	Pro	aram Delive	740,544	740,544	740,344	3,093,314
Description	EY01	FY02	FY03	EY04	EY05	Total
Salaries & Benefits		1102		1104	1100	0
FT Faculty	54 000	142 500	142 500	142 500	142 500	624,000
PT Faculty	61,410	186.875	193,315	193,315	193,315	828.230
Program Co-ordinator	22.228	22.228	35.848	35.848	35.848	152.002
FT Technician	50.000	50.000	50,000	50,000	50.000	,
PT Technician	0	0	0	0	0	0
other direct staffing						
						0
Course						
Supplies/Instructional Cost	14,590	49,090	51,590	51,590	51,590	218,450
Computer Software/Mtnce	33,065	19,105	19,105	19,105	19,105	109,485
Faculty Travel						0
Equipment Rental and/or						
Maintenance						0
Other (list)						0
						0
Program Delivery Costing	235,294	469,798	492,358	492,358	492,358	1,932,167
Incremental Aca	demic Overhea	d - program	supports not	directly relat	ed to delive	у
Description	FY01	FY02	FY03	FY04	FY05	Total
Esoulty support costs						\$
Travel and Professional						
Development	11,480,00	11,480,00	11,480,00	11.480.00	11,480,00	\$ 57.400.00
Curriculum Quality supports -						\$
Review/Renewal						- -
Other (list and add rows as						\$
needed)						-
						Ф -
		\$	\$	\$	\$	
Incremental overhead	\$ 11,480.00	11,480.00	11,480.00	11,480.00	11,480.00	\$ 57,400.00

	Program Development and Review Costs											
Description	FY00	FY01	FY02	FY03	FY04	FY05	Total					
Cost of Program Development							\$-					
Development	66,203.00	3,895.00		10,000.00	10,000.00	15,000.00	\$ 105,098.00					
Internal expenses							\$ -					
Consulting costs							\$-					
Capital expenditures	212,921.19	310,230.00	14,348.14	14,348.14	92,112.46	92,112.46	\$ 736,072.38					
Other (list)							\$ -					
Total program development	\$ 279,124.19	\$314,125.00	\$14,348.14	\$24,348.14	\$102,112.46	\$107,112.46	\$ 841,170.38					

	Incremental Costing Summary												
	FY00	FY01	FY02	FY03	FY04	FY05	Total						
Incremental													
Revenues		\$169,708.00	\$701,974.00	\$740,544.00	\$740,544.00	\$740,544.00	\$3,093,314.00						
Incremental													
Costs	\$ -	\$246,773.67	\$481,278.32	\$503,838.47	\$503,838.47	\$503,838.47	\$2,239,567.39						
Net													
Investment	\$279,124.19	\$314,125.00	\$14,348.14	\$24,348.14	\$102,112.46	\$107,112.46	\$841,170.38						
NET													
INCOME /		-											
CASH	-\$279,124.19	\$391,190.67	\$206,347.54	\$212,357.40	\$134,593.08	\$129,593.08	\$ 12,576.23						

		Contribu	ution to Overhea	ad		
		Non-Increment	al Program Dist	ributions		
Description	FY01	FY02	FY03	FY04	FY05	Total
MTCU Grant	32,428	134,134	141,504	141,504	141,504	591,074
Dean & Other academic staffing						
supports	4,244.86	17,558.27	18,523.01	18,523.01	18,523.01	\$ 77,372.15
program revenue	202,136.00	836,108.00	882,048.00	882,048.00	882,048.00	3,684,388.00
program expense	239,538.53	487,356.59	510,881.47	510,881.47	510,881.47	2,259,539.53
Net Contribution to Overhead	-\$ 37,402.53	\$348,751.41	\$ 371,166.53	\$371,166.53	\$ 371,166.53	\$ 1,424,848.47
% CTO	-19%	42%	42%	42%	42%	39%
College Overhead Target	66,704.88	275,915.64	291,075.84	291,075.84	291,075.84	1,215,848.04

12.6. Appendix VI: MTCU Program Delivery Information (PDI)

	Semester								
Funded Instructional Setting	1	2	3	4	5	6	Total		
Classroom instruction	135	75					210		
Laboratory/workshop/fieldwork	180	210					390		
Independent (self-paced)									
One-on-one instruction									
Clinical placement									
Field placement/work			300				300		
placement			000				000		
Small group tutorial									
Total	315	285	300				900		

	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								

Total	1	2	3	4	5	6	Total
Grand Total	315	285	300				900

BUSINESS CASE Applied Data Analytics

Date:	Oct. 21, 2019				
Board of Governors:	⊠ Decision				
Proposed By	Carol Kelsey, Dean; Brett Goodwin, Dean; Pam Stoneham, Dean				
School of Study:	School of Trades and Technology				
Proposed Launch Date:	Fall 2020				
Offering:	⊠ Full-Time □ Part-Time				
Total Student Enrolment Target:	YEAR 1 = 35 YEAR 3 = 142 YEAR 5 = 142				
New Faculty Resources	70% PT / 30% FT compliment				
Semesters / Hours:	3 Semesters / 860 Hours				
Applied Learning Method(s):	☑ Applied Project □ Co-op/Placement □ Other				
First Graduating Class	Class of 2021				
Credential Ontario College (OC):	 □ OC Diploma □ OC Certificate □ OC Advanced Diploma □ Fleming College Diploma □ Fleming College Certificate 				
Program Mapping:	Appendix I				
Career Opportunities:	Analyst, Business Analyst, Business Intelligence Analyst, Business Intelligence Data Analyst, Business Intelligence & Reporting Analyst, Crime Analyst, Criminal Intelligence Analyst, Counterterrorism Intelligence Analyst, Data Analyst, Data Custodian, Data Intelligence Analyst, Data Mining Analyst, Data Warehouse Analyst, Database Administrator, Decision Support Analyst, Electronic Data Processing Analyst, Health Analyst, Information Analyst, Information Resource Analyst, Marketing Analysts, Market Intelligence Analyst, Public Health Analyst, Strategic Intelligence Analyst				
Proposed Tuition (per Semester)	\$2,450.00 (Domestic) / \$7,635.00 (International)				
Program Start-up Cost:	\$94,367.00				
Incremental Costs:	YEAR 1 = \$153,534.87 YEAR 3 = \$380,992.00 YEAR 5 = \$365,992.00				
Net Income:	YEAR 1 = (\$2,816.87) YEAR 3 = \$214,792.00 YEAR 5 = \$229,792.00				
OCQAS Program Validation	 □ Pending △ APS Number: FLEM01306 ○ Approved ∨alidation Date: July 9, 2019 				
MTCU Code(s):	70523				
NOC Code(s):	NOC 2172: Database Analysts & Data Administrators				
CIP Code(s):	CIP 11.0802: Data modelling/warehousing and database administration				

Endorsed

☑ Academic Council ☑ Program Advisory or Reference Group ☑ Senior Management Team

Strategic Enrolment Management D Other:

November 27, 2019 | Public Meeting Package Page 103

Acknowledgements

Thank you to the members of our Applied Data Analytics 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 Carol Kelsey, Brett, Goodwin, Maxine Mann, Pam Stoneham, Linda Poirier, Jenny Olauson, Jason Jackson, Tania Clerac, Martha Jansenberger, John Lohrenz, Shawn Morgan, Ghada Hussein, Todd Hataley, Kris McBride, Vikki Maystruck, Jennifer Ramsdale, Patti-Lynn Davis, John Pacey, Wendy Johnson, and Cheryl Wardell. We would also like to thank the following members of our Reference Group: Thiru Appasamy, Scarborough Health Network; Viola Zhou, Ontario Shores Centre; Jonathan Wiersma, Cancer Care Ontario; Tina Thornton, Nexicom Inc.; Diane Vass, Ceridian; Michael Leahy, Esri Canada; Alessandro Alasia, Statistics Canada; Steve Czajka, City of Mississauga; Bryan Macintosh, Grand River Conservation Authority; and Ian Williams, Toronto Police Service.

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1. Executive Summary

The Applied Data Analytics Ontario College Graduate certificate is a hybrid three semester, applied data analytics program. This program is a multi-school collaboration involving the Schools of Business, Health and Wellness, Trades & Technology, Justice & Community Development, and Environmental and Natural Resource Sciences. The program will be unique in Ontario in that it will offer applied data analytics training with specializations in the fields of Business, Health, Crime or Environmental Analytics.

This program aligns with the first, second and fourth commitments of Fleming College's new Strategic Plan. First, the program focuses on the needs of students and employers in the labour market by providing top-quality training in response to predicted labour shortages in this sector over the next 10 years and a flexible delivery model to allow for working individuals to upskill in this area in order to qualify for new career opportunities within their organizations. Secondly, a robust data analytics program at Fleming College will support our vision of building a world-class applied research strategy by seeking out opportunities to partner with industry and governments to expand research activities and find solutions through data analytics to issues which face our own municipalities and regions. Lastly, the program will make use of the latest technology and digital tools by using the newest technology in the workplace through their applied project course and during their training at Fleming.

The program boasts the ability for students to choose their "own educational adventure" by choosing the industry sector they wish to specialize in. This will result in two main benefits: 1) the program will appeal to a greater student market mitigating low enrollment and financial risk, and 2) according to Self-Determination Theory, choice leads to an increase in intrinsically motivated behavior (Schneider, Nebel, Beege and Rey, 2018). Motivated students are more likely to be successful and thus are more likely to show greater satisfaction in their educational choice.

The Applied Data Analytics program is founded on the four pillars of evidence-based decision making: critical thinking, knowledge, skill, and communication. Graduates will be prepared to critically listen to and understand problems, and to have the skills to acquire the right data and apply the right techniques to provide a range of technical solutions. Further, graduates will be trained to effectively communicate the results of their technical analysis at the right level to a range of audiences, and to follow-up with strong project management skills. Graduates of this program will be well equipped to work as data analysts in the field of their choosing.

In addition to the ability to choose, graduates of this program will be rewarded with a positive labour market. According to EMSI Analyst, the labour market for this occupation is projected to increase by 9.4% regionally and by 16.5% provincially from 2019 to 2026. Nationally, the projected increase is 16.2% from 2019 to 2026 and the 10 year outlook over the 2017 to 2026 period is showing an expectation that the occupation will face labour shortage conditions. The Applied Data Analytics program is also expected to show a healthy net income of \$766,916.26 over the first five years with a consistent contribution to overhead of 44% from year 3 through year 5.

Lastly, the Applied Data Analytics program will offer unique, sought-after job training in a labour market that is projected to face labour shortages over the next 10 years. The program is designed to increase student satisfaction by offering flexible delivery and increased choice in course selection allowing for specialization in four different fields. Thus, students of this program will be both satisfied with their training and the employment opportunities that await them upon graduation.

2. Program Description

The Applied Data Analytics Ontario College Graduate certificate is a hybrid three semester applied data analytics program that will be delivered fulltime. The program is a cross school collaboration involving the School of Trades and Technology, School of Business, School of Health and Wellness, School of Justice and Community Development and the School of Environmental and Natural Resource Science.

Students will be thoroughly prepared in analysis based on established methods in data acquisition, manipulation and transformations, data quality, analysis, synthesis, and producing and communicating testable results using various technologies. The foundation of all analysis is the general research model, which will be used to frame student's work, and thus ground the student in solid principles of rigorous analysis. Additionally, students will have training around ethical issues related to data acquisition and privacy.

The program will have shared common curriculum for the first and most of the second semester. In the second semester, students will be able to choose a program elective in the field of study they are most interested in. The last semester will be comprised of an applied project that will allow the student to further their specialization in one of the following areas: Business, Health, Crime and Environmental Analytics.

2.1. Program Mapping

Vocational Learning Outcomes

The graduate has reliably demonstrated the ability to:

- 1. collect, manipulate, and interpret qualitative and quantitative data to meet industry needs
- 2. build and deploy analytical models to support evidence based decision making
- 3. use current technologies to manipulate data sets, correlate information, and communicate results
- 4. design and present spatial and non-spatial data visualizations to communicate information to stakeholders
- 5. apply business intelligence tools to support evidence based decision making
- 6. manage and evaluate all aspects of the project life cycle to ensure it meets strategic goals
- 7. collaborate with others in a team environment to extract information, build solutions to support evidence based decision making
- 8. integrate communication, critical thinking and technical skills to suggest solutions to industry problems requiring data analysis
- 9. adhere to confidential, ethical, legal and professional standards of practice when performing tasks and responsibilities.

Below is a table of the course names, hours and delivery breakdown by semester (lec = lecture, sem= seminar, lab = laboratory). A complete mapping of the curriculum and course descriptions may be found in the CVS validation documents included in Appendix I. The MTCU Program Delivery Information (PDI) table may be found in Appendix II.

Applied Data Analytics Ontario College Graduate Certificate

mapped to MTCU code 70523 (Big Data Analytics)								
Semester	Course Code	Course Name	Hours	Delivery				
1	NEW 1	Introduction to Data Management	60	1-2 hr lec (online), 1-2 hr lab				
1	NEW 2	Introduction to Data Analysis	60	1-2 hr lec (online), 1-2 hr lab				
1	NEW 3	Data Visualization Techniques	60	1-2 hr lec (online), 1-2 hr lab				
1	NEW 4	Data Languages I	60	1-2 hr lec (online), 1-2 hr lab				
1	NEW 5	Storytelling through Data	60	1-2 hr lec (online), 1-2 hr lab				
1	NEW 6*	Security, Data Governance and Ethics	30	1-2 hr lec (online)				
			Tota	al Semester 1 Hours: 330				
2	NEW 7	Statistical Data Handling	60	1-2 hr lec (online), 1-2 hr lab				
2	NEW 8	Advanced Data Analytics	60	1-2 hr lec (online), 1-2 hr lab				
2	NEW 9	Data Languages II	60	1-2 hr lec (online), 1-2 hr lab				
2	NEW 10	Data Visualization Techniques	60	1-2 hr lec (online), 1-2 hr lab				
2	MGMT 292	Agile and LEAN Project Management	45	1-1 hr lec (online), 1-2 hr sem				
Program Electives (Students choose one of the following):								
2	NEW 11	Business Analytics	45	1-1hr lec (online), 1-2 hr lab				
2	NEW 12	Environmental Analytics	45	1-1hr lec (online), 1-2 hr lab				
2	NEW 13	Crime Analytics	45	1-1hr lec (online), 1-2 hr lab				
2	NEW 14	Health Analytics	45	1-1hr lec (online), 1-2 hr lab				
			Tota	al Semester 2 Hours: 330				
3	NEW 15	Applied Project	200	Experiential Learning				
	Total Program Hours: 860							

*the NEW 6 course will be shared with the proposed Artificial Intelligence – Virtual Reality program

2.2. Essential Employability Skills/Soft Skill Development

According to the Framework for Programs of Instruction Minister's Binding Policy Directive, Essential Employability Skills are locally determined at the Ontario College Graduate Certificate and thus are not required in the CVS application at this level of credential.

Currently, the labour market still requires humans for complex thinking/problem solving, contextualized analysis, programming, machine operation/programming,
tasks involving dexterity, communication (flexible, empathetic), and personal/business services requiring "human touch". (Grant, 2016). The labour market is also experiencing a sharp increase in demand for "business" skills (critical thinking, interpersonal communication, self-management, ability to learn) (ICTC, 2015). The top ten skills in our region were identified to be oral and written communication, detail orientation, team player, work independently, clean criminal record, problem solving, integrity, organizational skills and marketing. Since January 2018, over 41,000 Ontario employers have posted employment opportunities for related to data analytics, citing the top 5 'human-centric' skills needs: management, communications, leadership, problem solving, and integration.

To meet the soft skills needs of our regional employers in this industry, Vocational Learning Outcome # 8, "integrate communication, critical thinking and technical skills to suggest solutions to industry problems requiring data analysis", was developed. This VLO is solely focused on soft skill development and will be met primarily through the following courses: Agile and LEAN Project Management, Storytelling through Data, Applied Project and the program electives (Business, Crime, Health and Environmental Analytics).

2.3. Admission Requirements

Completion of an Ontario College Diploma, Ontario College Advanced Diploma, Degree, or equivalent. Successful completion of the following courses or equivalent experience are required:

- Introductory Python Programming
- Statistics

Proficiency in Microsoft Excel is highly recommended and bridging courses in Python programming and statistics will be available at Fleming for prospective students.

3. Fleming Student Fundamentals

3.1. Student Target Audience and Student Demand for Program

A review of comparable programs in Ontario is showing an increase in the offerings, applications and registrations of students into data analytics programs. Fleming student enrollment data also shows that our international student market chooses Ontario College Graduate Certificates in the Schools of Trades and Technology of which this program will be housed and delivered.

In addition to our International student market, this program will also target university graduates and mature, working industry individuals that wish to upskill and take

advantage of new opportunities within their organization. In many sectors, the need for data analysts is growing. In fact, in some sectors such as the public health sector, there is an unmet need for health analytics mandated by provincial and contractual funding requirements. In many cases, new data analyst positions offer new career opportunities for existing employees within an organization.

This program will also be offered in collaboration with the Schools of Health and Wellness, Justice and Community Development and Environmental and Natural Resource Sciences thereby widening the prospective pool of recent diploma, advanced diploma or graduate certificate graduates who may wish to pathway into this program.

This program will not compete with other Fleming College graduate certificates. The proposed Artificial Intelligence – Virtual Reality (AI-VR) Ontario College Graduate Certificate is the most closely related program at Fleming College. The two programs will share two courses in order to enhance efficiencies in delivery. However, the skills and knowledge gained in the AI-VR program are vastly different in comparison to the Applied Data Analytics program and graduates of both programs will enter different labour markets.

3.2. The Student Experience

The uniqueness and strength of this program is that students will be able to choose between four fields of interest and choose an applied project within their field of interest. According to Self-Determination Theory, choice leads to an increase in intrinsically motivated behavior (Schneider, Nebel, Beege and Rey, 2018). Motivated students are more likely to be successful and thus are more likely to show greater satisfaction in their educational choice.

Students will also have access to health, counselling, library and tutoring services. It is anticipated that many prospective students will be mature working individuals. Thus, the program has been designed to be delivered in a hybrid format. Students will attend face-to-face labs in evenings, weekends and possibly one day a week and will require access to labs and technical support during these times as a result.

3.3. Experiential Learning and Applied Research Opportunities

The Applied Data Analytics program includes an applied project in the third semester in which students will work with an industry partner in the data analytics field of their choice. Many of these projects will be research-based due to the very nature of the data analytics field. In the first and second semester students will also use current technologies when manipulating data to answer real world problems/questions and thus will be further exposed to current applied research.

3.4. Education Pathway Opportunities

This certificate will serve as a pathway opportunity to a career in data analytics for university and college graduates with degrees or diplomas in several different subject areas. However, in order to ensure success, graduates of college or university programs that have not successfully completed a statistics or Python programming course will need to complete bridging courses in these subjects prior to entry into the program. These bridging courses (COMP 581 – Introduction to Python Programming and MATH 056 – Statistics) will be available online through Fleming's Continuing Education for prospective students.

Fleming College graduates may also choose to pathway into a career in data analytics. Within Fleming's School of Business, graduates from the Accounting and Business Administration diploma programs may choose to pathway into the Applied Data Analytics business focus by completing the Python programming bridging course. Graduates from other School of Business diploma programs, such as Business, Office Administration and Sporting Goods programs, may choose to pathway into the Applied Data Analytics business focus by completing both the statistics and Python programming bridging courses.

Within Fleming's School of Health and Wellness, graduates from the Health Information Management diploma program may choose to pathway into the Applied Data Analytics health focus by completing a Python programming bridging course and graduates from the Biotechnology – Advanced diploma program may choose to pathway into the Applied Data Analytics crime focus by completing the Python programming bridging course.

Graduates from the School of Justice and Community Development's Community and Justice Services, Police Foundations and Protection, Security and Investigations diploma programs may choose to pathway into the Applied Data Analytics crime focus by completing the statistics and Python programming bridging courses. And, graduates from the School of Environmental and Natural Resource Sciences' Environmental Technology, Ecosystem Management and Urban Forestry diploma programs may choose to pathway into the Applied Data Analytics environmental focus by completing the Python programming bridging course.

Graduates from the School of Trades and Technology's Computer Engineering Technician diploma and the Computer Security and Investigations advanced diploma programs may choose to pathway into a field of their choosing in Applied Data Analytics by completing a statistics bridging course.

Lastly, graduates from several of Fleming's Graduate Certificate programs may choose to pathway into the Applied Data Analytics Graduate Certificate program.

Because the graduates of these programs have varying degrees and diplomas before entering their original graduate certificate, they may or may not be required to complete the bridging courses prior to admission. The graduates of the following Graduate Certificate programs would likely be interested in this pathway: Geographic Information Systems – Cartographic or Applications Specialists, Applied Planning – Environmental, Sustainable Waste Management, Global Business Management, International Business Management, Supply Chain Management – Global Logistics, Project Management, Emergency Management and Business Continuity, Food and Nutrition Management, Wireless Information Networking and the proposed Artificial Intelligence Virtual Reality.

4. Strategic Alignment

4.1. Strategic Mandate Agreement

Because this program is broad reaching, it aligns with the following areas of strength identified in the 2017-20 Strategic Mandate Agreement (SMA):

- Business Management
- Business Computer
- Health Technology
- Resources

The program also aligns with the same areas of expansion identified in the 2017-20 Strategic Mandate Agreement (SMA):

- Business Management
- Health Technology
- Resources

Students have the choice to study and work in several industry sectors that align with Fleming's SMA areas of strength and expansion after graduating with the Applied Data Analytics Ontario College Graduate Certificate. If a student chooses to focus on business analytics they will be prepared to work in the business management or business computer sector upon graduation. If a student chooses to focus on health analytics they will be prepared to work in the health technology sector upon graduation. Lastly, if a student chooses the environmental analytics option they will be prepared to work in the resource sector applying analytics to resource decision making.

This program is a multi-school collaboration that will support existing programming across the college and strengthen ties between schools and campuses. The program specifically will strengthen Health and Wellness, Justice and Community Development, Business, Environmental and Resource Sciences, and Trades and Technology programming by offering an additional graduate certificate that may of be of interest to diploma graduates of these schools.

Because the program will be housed within the School of Trades and Technology, the program also aligns with the first domain, Program Enrichment and Growth, of the 2017-20 Strategic Mandate Agreement (SMA) by broadening Fleming's Trades and Technology program offerings thereby building on the quality of our technology core programs that support regional economic and social health. The program will also grow our international activities by increasing international student enrolment and giving our international students more program choice in the area in which they desire training. In addition, the program aligns with the second domain of the 2017-20 SMA, Student Success First, by building new partnerships and deepening industry relationships to create new opportunities for experiential learning (applied project course and applied research opportunities) and employment for our graduates.

4.2. Fleming College Strategic Plan

This program aligns with the first commitment of Fleming College's new Strategic Plan by focusing on the needs of students and employers in the labour market. This program will provide top-quality training within the field of data analytics in response to predicted labour shortages in this sector over the next 10 years. The flexible delivery model of this program has been designed to appeal to alumni, other lifelong learners, and those seeking to advance their careers by updating their skills. As the labour market expands in data analytics, many working individuals may choose to upskill in this area in order to qualify for new career opportunities within their organizations.

This program aligns with the second commitment of Fleming College's new Strategic Plan by being a true partner in our communities. A robust data analytics program at Fleming College will support our vision of building a world-class applied research strategy. The program would seek out opportunities to partner with industry and governments to expand research activities and find solutions through data analytics to issues which face our own municipalities and regions.

This program also aligns with the fourth commitment of Fleming College's new Strategic Plan by embracing technology and digital tools. This program will make use of the latest technology and digital tools. Students will also benefit from hands-on training using the newest technology in the workplace through their applied project course. The college may even choose to have students in this program work on the proposed Job Market Analytics program to improve our use of data and analytics to better understand the job market and outcomes for graduates.

4.3. Fleming College Business Plan

The program aligns with the first two key objectives of the Fleming College Business Plan 2019-2020. Under this plan, objective 1.2.1 - *Develop 5 new programs with various delivery modes including digital (hybrid) delivery*, will be supported by the development of this program. The Applied Data Analytics program has been designed using hybrid delivery and scheduling classes outside of regular working hours in order to appeal to working professionals who wish to upgrade their skills. The development of this program may also contribute to objective 2.3.1 – *Increase applied research activity in programs such as: Aquaculture, Customs Border Services, Biotechnology, and other programs ready to pursue research opportunities in the 2019-2020 year.* The Applied Data Analytics program includes an applied project in the third semester in which students will work with an industry partner in the data analytics field of their choice. Many of these projects will be research activity.

4.4. Fleming College Academic Plan

Fleming College is presently developing a new Academic Plan that will build on the new 2019-2024 Strategic Plan. The program will likely align with the new Academic Plan because it aligns strongly with the new Strategic Plan.

Although it is anticipated that the program will align with the new Strategic Plan, the program does align with two academic priorities of the previous Academic Plan. First, with the Pathways priority of the Academic Plan, by giving our students opportunities to move between Fleming programs. The program offers pathway options for graduates of the Schools of Business, Trades and Technology, Health and Wellness, Justice and Community Development and Environmental and Natural Resource Sciences. Secondly, the program aligns with the Student Success priority by developing and implementing programs to effectively attract, support and integrate international students.

4.5. Fleming College Sustainability Plan

The program curriculum includes an applied project and opportunities for participation in applied research. Applied projects and applied research often involve sustainable design and solutions, in fact, the curriculum includes an Agile and LEAN Project Management course that teaches waste reduction in project planning, design and management. The curriculum thus aligns with the third category, Green Curriculum, goal 3.6 of 2019-2022 Sustainability Plan "Launch new programs supporting sustainability, low carbon building and the circular economy". The program supports this goal by providing training in sustainable practices in applied data analytic solutions through hands-on applied project experiences.

4.6. Fleming College Internationalization Plan

The program will appeal to international students as enrolment data has shown they are overwhelmingly choosing Ontario College Graduate Certificate level offerings in the Schools of Business and Trades and Technology. However, it is important to note that presently the Internationalization Plan is under revision. Once this new plan is in place, the new program will align with the plan in terms of additional opportunities for international students.

5. Environmental Scan

5.1. Labour Market

Labour Market Description

The Applied Data Analytics Ontario College Graduate Certificate falls under the National Occupation Classification code NOC 2172: Database Analysts & Data Administrators. The following is a summary of the main duties for this occupational group:

- collect and document user's requirements
- design and develop database architecture for information systems projects
- design, construct, modify, integrate, implement and test data models and database management systems
- conduct research and provide advice to other informatics professionals regarding the selection, application and implementation of database management tools
- operate database management systems to analyze data and perform data mining analysis.
- may lead, co-ordinate or supervise other workers in this group.
- develop and implement data administration policy, standards and models
- research and document data requirements, data collection and administration policy, data access rules and security
- develop policies and procedures for network and/or internet database access and usage and for the backup and recovery of data
- conduct research and provide advice to other information systems professionals regarding the collection, availability, security and suitability of data
- write scripts related to stored procedures and triggers
- may lead and co-ordinate teams of data administrators in the development and implementation of data policies, standards and models.

Common job titles include:

- Analyst
- Business Analyst
- Business Intelligence Analyst
- Business Intelligence Data Analyst
- Business Intelligence & Reporting Analyst
- Crime Analyst
- Criminal Intelligence Analyst
- Counterterrorism Intelligence Analyst
- Data Analyst
- Data Custodian
- Data Intelligence Analyst
- Data Mining Analyst
- Data Warehouse Analyst
- Database Administrator
- Decision Support Analyst
- Electronic Data Processing Analyst
- Fraud Operations Analyst
- Health Analyst
- Information Analyst
- Information Resource Analyst
- Marketing Analysts
- Market Intelligence Analyst
- Public Health Analyst
- Strategic Intelligence Analyst
- Supply Chain Analyst

According to the Government of Canada's Job Bank labour market data analysis, there are approximately 18,450 people working in this occupation in Ontario and they work mainly in the following sectors:

- Computer systems design services (North American Industry Classification System (NAICS) 5415): 17%
- Monetary Authorities central bank and securities, commodity contracts and other intermediation and related activities (NAICS 521, 522, 523): 12%
- Information and cultural industries (NAICS 51): 9%
- Federal government public administration (NAICS 911): 9%
- Other professional, scientific and technical services (NAICS 5414, 5416-5419): 6%

In the Muskoka-Kawarthas region, approximately 110 people work in this occupation and they work mainly in the following sectors:

- Professional, scientific and technical services (NAICS 54): 64%
- Educational services (NAICS 61): 20%

• Wholesale trade (NAICS 41): 16%

The table below shows the breakdown of the number and percentage of jobs by sector in Ontario in 2017.

Industry/Sector (Ontario)	Occupation Jobs in Industry (2017)	% of Occupation in Industry (2017)	% of Total Jobs in Industry (2017)
Computer systems design and related services	2,024	13.1	1.9
Other federal services (9112-9119)	1,293	8.4	1.0
Depository credit intermediation	782	5.1	0.5
Data processing, hosting, and related services	657	4.3	5.0
Local, municipal and regional public administration	609	3.9	0.3

(Source: EMSI Analyst, retrieved March 2019)

Full-time workers comprise 95% of this labour market in comparison to 79% for all occupations. Seventy-seven per cent of database analysts and data administrators work all year, while 23% 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. Only 5% of database analysts and data administrators are self-employed compared to an average of 12% for all occupations.

According to EMSI Analyst, the overall median wage for this occupational group is \$33.12 per hour. Wages depend on job requirements and work conditions. They also vary between regions, due to location, labour agreements, and or the availability of workers. The low, median and high wages for this occupational group are shown in the table below.

Wages estimates for positions related to Applied Data Analytics in Ontario									
Community/Area	Low Wages (\$/hr)	Median Wages (\$/hr)	High Wages (\$/hr)						
Canada	18.27	34.87	51.00						
Ontario	17.00	34.36	50.48						
Muskoka-Kawartha Region*	n/a	n/a	n/a						
Toronto	17.00	34.87	51.28						

*Due to data limitations, wages for the Muskoka – Kawarthas Region cannot be published.

(Source: EMSI Analyst, retrieved March 2019)

Please see Appendix III for recent samples of employment postings.

Industry Trends

Canada's data analytics labour market is expected to generate roughly \$1.8 billion annually in revenue with direct employment in the big data market expected to exceed 43,000 jobs by 2020 – making it one of the four highest-demand sectors in tech (ICTC, 2016). Indeed, the job search engine company, recently ranked data scientist and operations consultant as the number five and six best jobs in Canada, noting that the "two positions highlight the importance of big data in the business world."

According to Randstad (2019), Toronto has recently become the fastest growing market for tech jobs in the world, beating out Silicon Valley. Randstad's Top Job Titles in IT jobs list shows Data Analyst at number 5 and IT Business Analyst at number 6. Data Analyst was a new entry on the list for 2019 and as businesses increasingly rely on data, expect the demand for data analysts to grow. IT Business Analysts who specialize in tech and software analysis are in especially high demand in 2019. As businesses rely heavily on internal and external software, business analysts are needed to shape and optimize business systems and software to make them as effective as possible.

With the growth of data with governments, businesses and Canadians, organizations are in the process of changing their business models, building new expertise and devising new ways of managing and unlocking the value of their data (Government of Canada, 2019). In Canada, the Clerk of the Privy Council is developing a Data Strategy for the Federal government of Canada with four themes: stronger governance, improved data literacy and skills, enabling infrastructure and legislation and more focused treatment of data as a valuable asset. Important goals stated in this report include:

- "Improve recruitment and professional development practices to ensure that we have the skilled people we need to do data work in a digital environment."
- "Ensure we have the right information technology environment that allows skilled professionals to use the disruptive technologies that will support the ambitious agenda outlined in this report. "

Labour Market Outlook

According to the 2019 Government of Canada's Job Bank labour market data analysis, the employment outlook for Database Analyst (NOC 2172) has been classified as:

- "Good" for the Muskoka-Kawarthas Region
- "Good" for the Province of Ontario
- "Shortage" for Canada

According to EMSI Analyst, the labour market for this occupational group (NOC 2172) is projected to increase by 9.4% regionally and by 16.5% provincially from 2019 to 2026. Nationally, the projected increase is 16.2% from 2019 to 2026.



Region	2019 Jobs	2026 Jobs	Change	% Change
Ontario	17,822	20,763	2,941	16.5%
• Peterborough (in Ontario)	53	58	5	9.4%
Northumberland (in Ontario)	21	23	2	9.5%
Kawartha Lakes (in Ontario)	20	22	2	10.0%
• Durham (in Ontario)	513	594	81	15.8%
Simcoe (in Ontario)	330	406	76	23.0%
Haliburton (in Ontario)	<10	<10	Insf. Data	Insf. Data

(Source: EMSI Analyst, retrieved March 2019)

The 10 year outlook for the 2017-2026 period, this occupational group is expected to face **labour shortage** conditions at the national level. New job openings (arising from expansion demand and replacement demand) are expected to total 17,500, while 16,600 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 relatively similar over the 2017-2026 period, the labour shortage conditions seen in recent years are expected to continue over the projection period (see table below).

Projection of Cumulative Job Openings and Job Seekers over the Period of 2017-2026						
Category	Level	Share (%)				
Expansion Demand	9,600	55				
Retirements	6,400	37				
Other Replacement Demand	900	5				
Emigration	600	3				
Projected Job Openings	17,500	100				
Category	Level	Share (%)				
School Leavers	11,900	72				
Immigration	2,400	14				
Other	2,300	14				
Projected Job Seekers	16,600	100				

(Source: EMSI Analyst, retrieved March 2019)

Professional Certifications

There are no industry standards or professional certifications required to work in this field. The following is a list of professional associations for the occupation:

- International Institute of Business Analysis (IIBA)
- Digital Analytics Association (US)
- Data Science Association (International)
- Healthcare Data & Analytics Association (Canada)
- Informs (International association for professionals in operations research and analytics)

5.2. The Competition

There are five graduate certificate programs offered in Ontario mapped to MTCU code 70523 (see Appendix IV). Only two of the colleges have offered these programs before the 2018/2019 academic year: Georgian and St. Lawrence. The academic year of 2018/2019 only includes application and registration data for the fall and winter semesters so cannot be directly compared to years before. However, a trend of increasing enrolment can be seen at Georgian College from 2016/2017 to 2017/2018 as well as for St. Lawrence College from 2017/2018 to 2018/2019. Although Georgian had a decrease in registrations between 2017/18 and 2018/19 and keeping in mind that this data does not include summer registrations, the number of applications have actually increased every year. This shows that there is a pool of

prospective students interested in this programming. The registration data also shows that other colleges are recognizing the need for employees with these skills and are beginning to offer programs in data analytics training.

It is important to note that MTCU code 70523 represents Big Data Analytics and the uniqueness of Fleming College's Applied Data Analytics will be the ability of students to specialize in one of four industry sectors: business, crime, health or environmental analytics. This will set our program apart from all other competitors.

Total Applications/Registrations by College for Programs mapped to MTCU code 70523 (Big Data Analytics)*								
College	2015/2016	2016/2017	2017/2018	2018/2019				
Cambrian	-	-	-	18/19				
Conestoga**	-	-	-	16/-				
Georgian**	-	37/36	136/167	155/64				
Seneca	-	-	-	41/-				
St. Lawrence	-	-	-/27	-/41				

*Data pulled from OCAS Data Warehouse RPT00411 and prepared Jan. 9, 2019

**Colleges in the Central Region of Ontario

6. Community Collaboration

6.1. Fleming College Board of Governors

Item	Meeting Date	Endorsed (yes/no)
Concept Proposal	Original Briefing Note on November 2019; Amendment to original Briefing Note on May 22, 2019	yes
Business Case	November 27, 2019	

6.2. Fleming College Councils and Committees

The following committees, councils and/or external community partners were consulted during our research and program development process:

Council, Committee or Group	Meeting Date	Endorsed (yes/no)
Academic Council	November 2018; April 2019	yes
Program Implementation Committee	June 6, 2019	yes
Reference Group (external)	May 2, 2019	yes (see Letters of Support in Appendix V)
Strategic Enrolment Management	November 2018; September 2019	yes
Senior Management Team	November 2018; October 2019	yes

7. Program Implementation

7.1. Responsible School

School of Trades and Technology in collaboration with the School of Business, School of Health and Wellness, School of Justice and Community Development and the School of Environmental and Natural Resource Sciences.

7.2. Staffing Requirements

There is considerable fulltime and part time talent in-house to develop and deliver this program.

7.3. Space and/or Equipment Requirements

Lectures will be delivered online and lab space will be required in evenings and on weekends in addition to one day a week. Computer lab space to accommodate 30 students will be required for face-to-face labs (e.g., HIM lab and CSI lab). If rooms without computers are scheduled for labs (due to the BYOD requirement of the program), they will require powering capabilities for student devices.

No additional equipment is required for this program.

7.4. Information Technology Requirements

The program will make use of the existing College information technology infrastructure. Technical support will be required for labs taking place in evenings and on weekends. This program will also have a BYOD requirement and students will require a laptop that is capable of running ArcGIS Pro software (https://pro.arcgis.com/en/pro-app/get-started/arcgis-pro-system-requirements.htm).

Currently, system requirements for this software are:

- CPU speed:
 - o Minimum: 2 cores, hyperthreaded
 - Recommended: 4 cores
 - Optimal: 10 cores
- Platform: x64 with SSE2 extensions
- Memory/RAM:
 - o Minimum: 4 GB
 - o Recommended: 8 GB
 - o Optimal: 16 GB or more
- Display properties: 24-bit colour depth

- Screen resolution: 1024x768 or higher at normal size
- Storage:
 - Minimum: 32 GB of free space
 - Recommended: 32 G or more of fee space on a solid-state drive (SSD)

7.5. Program Promotion Strategy

Target start date: Fall 2020

Marketing should target university graduates, alumni and existing diploma, advanced diploma and graduate certificate students from all schools. Pathways have been recognized for the following diploma and advanced diploma programs:

- Business focus: Accounting, Business, Business Administration, Office Administration, Sporting Goods
- Health focus: Health Information Management
- Crime focus: Biotechnology Advanced, Community and Justice Services, Police Foundations, Protection, Security and Investigations
- Environmental focus: Environmental Technology, Ecosystem Management, Urban Forestry
- Any of the foci: Computer Engineering Technician, Computer Security and Investigations

The following Graduate Certificate graduates would likely be interested in this pathway: Geographic Information Systems – Cartographic or Applications Specialists, Applied Planning – Environmental, Sustainable Waste Management, Global Business Management, International Business Management, Supply Chain Management – Global Logistics, Project Management, Emergency Management and Business Continuity, Food and Nutrition Management and Wireless Information Networking.

Marketing should also target working individuals that wish to upskill in order to qualify for new career opportunities within their organizations. Local businesses, banks, educational institutions, health organizations, community organizations, governments and industry organizations/associations should be targeted.

Some professional associations to target:

- International Institute of Business Analysis (IIBA)
- Digital Analytics Association (US)
- Data Science Association (International)
- Healthcare Data & Analytics Association (Canada)
- Informs (International association for professionals in operations research and analytics)
- Ontario Waterworks Association
- American Waterworks

- Association of Municipalities Ontario
- Federation of Ontario Law Associations
- Canadian Society of Association Executives
- Fleming's Centre for Sustainable Municipalities

Some health organizations to target:

- Ministry of Health and Long-Term Care
- Ontario Hospital Association
- Ontario Long-Term Care Association (OLTCA)
- Ontario Association of Non-Profit Homes and Services for Seniors (OANHSS)
- Ontario Community Care Association
- Health Quality Ontario
- Canadian College of Health Leaders (CHE Certification)
- Canadian Mental Health Association
- Public Health Ontario
- Canadian Health Information Management Association
- Canadian Institutes of Health Research
- Canada Health Infoway
- 7.6. Office of the Registrar

Upon final MTCU approval for funding, program specifics will be loaded into Evolve.

7.7. Timelines

Registration: Spring 2020 Promotion start date: mid-Fall 2019 Expected launch date: Fall 2020 Expected first cohort of graduates: Class of 2021 Program Review date: 2024/2025

8. Financial

Description	Class of '21	Class of '22	Class of '23	Class of '24	Class of '25	
	(Year 1)	(Year 2)	(Year 3)	(Year 4)	(Year 5)	
Incremental	¢450,000,00	¢074 750 00			¢505 704 00	
Revenues	\$152,628.00	\$274,750.00	\$595,784.00	\$595,784.00	\$595,784.00	
Incremental	¢450 504 07	¢400.000.07	¢200.000.00	¢000.000.00	¢005 000 00	
Costs	\$153,534.87	\$166,302.87	\$380,992.00	\$380,992.00	\$365,992.00	
Net Investment	\$1,910.00	-	-	-	-	
NET		¢400.447.40	¢044 700 00	#044 700 00	¢000 700 00	
INCOME/CASH	(\$2,816.87)	\$108,447.13	\$214,792.00	\$214,792.00	\$229,792.00	

8.1. Incremental Costing Summary

8.2. Program Costing

Program costing assumed a September and May in-take each year with enrolments growing in the first three years to a constant entering class of 24 domestic and 36 international students. Further a retention rate of 80% was assumed between semesters. Staffing was set at 70% part-time faculty and 30% full-time faculty and a part-time coordinator until year 3 at which point a full-time coordinator would be justified. In year 1 development costs were factored in for developing all curriculum, additionally years 3 and 4 had modest development costs to allow for refining curriculum based on the first two years of offering the program. Please see Appendix VI for a detailed summary of the incremental costing.

8.3. Financial Risks

Main financial risks include unexpected international student enrollment declines, domestic student recruitment challenges and/or shortfalls, and lack of industry support (i.e. lack of applied projects and applied research opportunities related to the applied data analytics industry). Very low enrollment in any of the fields of specialization (health, crime, business or environmental analytics) will have financial costs associated with offering the four second semester program electives (specialization courses).

8.4. Countermeasures

Implementation of minimum enrollment targets for specialization courses will mitigate costs associated with low enrollment in areas of specialization. However, this may result in institutional reputational risks. The diversification of the curriculum may mitigate the risk of lack of industry support in applied projects and applied research opportunities (i.e. access to a broader base of professionals from various fields due to the several field options to study analytics).

9. 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)*

10. Conclusion / Recommendation

THAT the Board of Governors of Sir Sandford Fleming College approve the Applied Data Analytics Ontario Graduate Certificate program for launch in Fall 2020.

11. References

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12. Appendices

12.1. Appendix I: Program Map



Ontario College Quality Assurance Service

Service de l'assurance de la qualité des collèges de l'Ontario

Suite 1600, 20 Bay Street Toronto M5J 2N8

Program Validation Decision

We have completed our validation of your application for the Applied Data Analytics program submitted to us on July 4, 2019 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: FLEM01306.

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

However, in keeping with the MTCU 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,

Karen Belfer July 9, 2019



Ontario College Quality Assurance Service

Service de l'assurance de la qualité des collèges de l'Ontario

Applied Data Analytics

Fleming College | APS # FLEM01306 | MTCU # 70523 Ontario College Graduate Certificate | Funding requested - full-time

Purpose

The program greatly enhances employment opportunities in the private and public sectors in high paying specialist positions practicing advanced and applied data analytics. Students will typically find a challenging but rewarding work environment that is multi-dimensional with a path to career growth in technical analysis and decision support and management. Students will have exposure to many employment domains such as health care, business, spatial analysis and criminology supporting evidence based decision making by management.

Admission

Ontario College Diploma, Advanced Diploma, Ontario University Degree or equivalent

Successful completion of all of the following courses or equivalent experience: ** Introductory Python Programming ** Statistics Course

Proficiency in Microsoft Excel highly recommended Experience with technical or professional writing highly recommended

Occupational Areas

- Analyst
- Business Analyst
- · Business Intelligence Analyst
- · Business Intelligence & Reporting Analyst
- · Crime Analyst
- Criminal Intelligence Analyst
- Counterterrorism Intelligence Analyst
- Data Analyst
- Data Custodian
- · Data Intelligence Analyst

- · Data Mining Analyst
- · Data Warehouse Analyst
- Database Administrator
- · Decision Support Analyst
- Electronic Data Processing Analyst
- Information Analyst
- Information Resource Analyst
- Marketing Analysts
- · Market Intelligence Analyst
- Strategic Intelligence Analyst

Laddering Opportunities

The laddering opportunities will consist of graduates from diplomas, advanced diplomas and graduate certificates from Fleming programs or non- Fleming programs that relate to the four fields of analytics: Health Information Management; Biotechnology – Advanced; Computer Engineering

Technician/Technology; Business; Business Administration; Office Administration; Community and

Justice Services; Police Foundations; Protection, Security and Investigation; Emergency Management and Business Continuity; GIS; Ecosystem Management Technician/Technology; Environmental Technician/Technology; Urban Forestry Technician; Applied Planning; Sustainable Waste Management. Graduates will all have to take one or two bridging courses. There are also bridging opportunities for university graduates with health, crime, environmental and business degrees to ladder into this program.

Graduates of this program could ladder into degree programs in a quantitative field or a GIS graduate certificate.

Program VLOs

- 1. Collect, manipulate, and interpret qualitative and quantitative data to respond to industry needs
- 2. Build and deploy analytical models to support evidence based decision making
- 3. Use current technologies to manipulate data sets, correlate information, and communicate results
- 4. Design and present spatial and non-spatial data visualizations to communicate information to stakeholders
- 5. Apply business intelligence tools to support evidence based decision making
- 6. Manage and evaluate all aspects of the project life cycle to ensure it meets strategic goals
- 7. Collaborate with others in a team environment to extract information, build solutions to support evidence based decision making

- 8. Integrate communication, critical thinking and technical skills to suggest solutions to industry problems requiring data analysis
- 9. Adhere to confidential, ethical, legal and professional standards of practice when performing tasks and responsibilities.

Curriculum

•NEW 1 - Introduction to Data Management (Semester 1 - 60.00 hours)

Students will learn the basic concepts and principles of data management. The focus of the course will be on analysis and skill acquisition in modifying, sorting and filtering of existing data base structures and records, using a variety of software tools, but with a focus on existing and accessible tools. The learner will be trained in data quality processes and be able to compose selected queries and results and reports of data applicable to the workplace environment.

• NEW 2 - Introduction to Data Analysis (Semester 1 - 60.00 hours)

The focus of this course is to explore the analytical, and statistical methods and tools used to process and visualize data and interpretation. In this course, students will learn the essential concepts of data analysis using commonly accessible software tools, with an emphasis on MS-SQL, Excel, and Access, and their application to problem solving.

• NEW 3 - Data Visualization Techniques I (Semester 1 - 60.00 hours)

Students will explore how to produce effective and clear visual elements that can be used in reports, storytelling, and in other technical communication products. Students will learn when to use charts, graphs, cartographic maps, scatterplots, and other tools to visually represent their data, to meet the information need of their audience.

• NEW 4 - Data Languages I (Semester 1 - 60.00 hours)

This course builds on the students' prior learning with Python and Structured Query Language (SQL) to optimally work with structured and unstructured data. Various programming libraries, techniques and tools are explored in this course using datasets from all specializations.

• NEW 5 - Storytelling Through Data (Semester 1 - 60.00 hours)

Data storytelling is the process of translating data analyses for your audience to influence a decision or action. Students will learn the full circle for providing data analytics, about how to formulate questions or a problem statement, generate testable hypothesis, gather and analyse relevant data, and to interpret and communicate those results to support evidence-based decision making. This course builds on all of the courses taken and explores how to best provide data as actionable information using commercial and open-sourced software tools in lectures and handson labs.

NEW 6 - Security, Data Governance and Ethics (Semester 1 - 30.00 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.

• NEW 7 - Statistical Data Handling (Semester 2 - 60.00 hours)

This course builds on Data Management I. Students will expand their knowledge of database and spatial operations by combining data through aggregations and joins and other operations to prepare data for statistical analysis. The course will feature student projects and hands on work using real-world data.

• NEW 8 - Advanced Data Analytics (Semester 2 - 60.00 hours)

This course builds on the introduction to data analysis and management courses by expanding on the application of the general research model to applied analytics in the student's chosen field. Students will work with real-world data and scenario in their chosen fields to provide evidence based solutions using a variety of statistical tools. This emphasis will include developing strong critical thinking and problem solving skills to understand and resolve complex problems.

• NEW 9 - Data Languages II (Semester 2 - 60.00 hours)

This course continues to build techniques for working with structured and unstructured data, including how to convert between the two. Using advanced SQL, R, Python libraries and toolkits, various commercial and open-sourced software tools and techniques are explored to help achieve efficiency in the student workflow. More advanced data methods are explored to generate complex reports, statistics, and insights from provided datasets with examples in lectures, and hands-on learning in labs.

• NEW 10 - Data Visualization Techniques II (Semester 2 - 60.00 hours)

This course builds on Data Visualization I and furthers the knowledge about how to best present specialized data types, particularly spatial data and how to display attributes visually. Using leading GIS software, students will learn how to take spatial data and communicate the spatial pattern of a theme or attribute through case studies and hands-on practical labs.

• MGMT 292 - Agile and LEAN Project Management (Semester 2 - 45.00 hours)

This is a multi-disciplinary course designed to help students develop their skills in managing technical projects using Agile and LEAN project management methods. Students will learn how to identify and plan a project and work toward achieving their project goals. They will interact with a team in ways that contribute to effective working relationships and the achievement of the project goals. They will communicate in written, spoken, or visual format at various stages of the project. The course also includes evaluating the technical, interpersonal, and communication processes the team uses.

• NEW 11 - Business Analytics (Semester 2 - 45.00 hours) (Elective)

Businesses collect significant data to help make better decisions and be more profitable. Students work through spatial problems to understand customer distribution, and customer draw, as well understanding and forecasting future growth trends from past performance and generate reports for decision makers to consider actions. Data reselling companies will be subject of case studies to understand how they create their products and value-add to sell them to other companies in support of their decision making.

- NEW 12 Environmental Analytics (Semester 2 45.00 hours) (Elective) Policy and reporting requirement legislation drives environmental decision making. This course focuses on how best to use the tools taught in the program to specialize in environmental data analysis. Techniques (spatial/non-spatial) are explored in a variety of environmental and natural resource applications for effective decision-making. Students will learn the appropriate techniques for given scenarios and for enhanced data visualizations of the environment.
- NEW 13 Crime Analytics (Semester 2 45.00 hours) (Elective) This is a hands on course of applied analytics. Students will work with real-world crime data to analyze, interpret, map and report on their findings. All data tells a story, the student will be prepared to understand and tell the story behind crime statistics through a series of exercises.
- NEW 14 Health Analytics (Semester 2 45.00 hours) (Elective) This is a hands-on course of applied analytics focused on meeting the information needs of the public health sector. All funded health care agencies, especially hospitals, have a responsibility to report on their activities to the government and to the public. Students will work with patient, demographic and spatial data to analyze, interpret and report on their organizations delivery of health services, and to help plan for future services.
- NEW 15 Applied Project (Semester 3 200.00 hours)

The ability to craft sound recommendations and propose solutions and strategies based on small or large data sets is essential in data analysis. In this hands-on project-based course, students perform exploration, analysis and prediction processes while demonstrating their skills in visualization, reporting techniques and best practices to present findings and recommendations to stakeholders. This is a capstone course and therefore intended to be the last course that students complete in the program.

Code	1	2	3	4	5	6	7	8	9
NEW 1	Х		Х		Х				Х
NEW 2	Х	Х			Х				
NEW 3	Х		Х	Х	Х				
NEW 4			Х		Х				

VLO Mapping

NEW 5	Х	Х		Х		Х	Х	Х	Х
NEW 6							Х		Х
NEW 7	Х		Х		Х				
NEW 8	Х	Х			Х				
NEW 9	Х		Х	Х	Х				
NEW 10			Х		Х				
MGMT 292						Х	Х		
NEW 11	Х	Х						Х	Х
NEW 12	Х	Х						Х	Х
NEW 13	Х	Х						Х	Х
NEW 14	Х	Х						Х	Х
NEW 15	Х	Х	Х	Х	Х	Х	Х	Х	Х
	1	. •							

Certification/Accreditation

Certification type:

There is no recognition (None exist)

Attachments

None

12.2. Appendix II: MTCU Program Delivery Information (PDI)

	Semester							
Funded Instructional Setting	1	2	3	4	5	6	Total	
Classroom instruction	180	150	0	-	-	-	330	
Laboratory/workshop/fieldwork	150	180	0	-	-	-	330	
Independent (self-paced)	0	0	0	-	-	-	0	
One-on-one instruction	0	0	0	-	-	-	0	
Clinical placement	0	0	0	-	-	-	0	
Field placement/work placement	0	0	200	-	-	-	200	
Small group tutorial	0	0	0	-	-	-	0	
Total	330	330	200	-	-	-	860	

	Semester						
Non Funded Instructional Settings	1	2	3	4	5	6	Total
Co-op work placement - Mandatory	0	0	0	-	-	-	0
Co-op work placement - Optional	0	0	0	-	-	-	0
Degree work placement – Mandatory (shorter than Co-op)	0	0	0	-	-	-	0
Total	0	0	0	-	-	-	0

Total	1	2	3	4	5	6	Total
Grand Total	330	330	200	I	-	-	860

12.3. Appendix III: Employment Postings

Below are a sampling of employment postings from all of the specialization areas. Technical and soft skills that are reinforced and taught in the program are highlighted below in the qualifications of the job postings.

SAMPLE POSTING 1

Business Intelligence Data Analyst

Kawartha Credit Union Peterborough, ON Hours: Monday to Friday, 40 hours per week Rate of Pay: Based on experience

As a Business Intelligence Data Analyst, you will:

- Work closely with the VP Information Systems to build and provide a bridge to business to communicate information of high value to support decision-making demands
- Work closely with business departments to extend, support and maintain vendor data warehouse and reporting/data management tools
- Help to design and implement analytics programs, generate reports, and collaborate with various teams to ensure Kawartha is optimizing resources and maximize target markets
- Analyze and transform data into information that is accurate, applicable and usable for defined business purposes.

Qualifications Required:

- Minimum of five years' experience working in data analytics, business intelligence or relevant field
- Bachelor's degree in a relevant field required
- Three years of sales, service and investment administration and/or sales experience
- Thorough and up-to-date knowledge of: MS SQL or Oracle (Advanced SQL query) & data warehouse/database design and approaches
- Advanced knowledge of Microsoft Office applications, business intelligence, data management and general reporting and information presentation methodologies
- Knowledge and experience across a broad range of social media platforms and media analytical tools
- Proven understanding of data gathering and analytics approaches to support business intelligence and knowledge forming
- Solid computer skills, including Microsoft Office, databases, web-based applications
- Significant advanced work experience with MS Excel (cubes etc), SQL and other data/information presentation tools
- Experience with Oracle database or Oracle Business Intelligence products an asset

 Advanced experience and knowledge of credit union/banking products, policies and procedures will be required

Closing Date: Open until filled

SAMPLE POSTING 2

Junior Business Intelligence Data Analyst

Toyota Financial Services - Markham, ON Full-time, Permanent

About Toyota Financial Services

Toyota Financial Services (TFS) provides retail, leasing and wholesale financial services to Toyota and Lexus dealerships and customers across Canada. TFS is a member of Toyota Financial Services Corporation (TFSC), a wholly-owned subsidiary of Toyota Motor Corporation in Japan with the Canadian operation headquarters in Markham, Ontario

What Sets Us Apart?

At Toyota Financial Services (TFS), you will help create best in class customer experiences in an innovative, collaborative and team focused environment. TFS is an important part of the Toyota family, an award winning global company, recognized worldwide for our technological leadership and superior standards of quality, continuous improvement and environmental responsibility. TFS currently has an exciting permanent opportunity as a Business Data Analyst, reporting to the Manager of Strategy and Business Analytics. This role will reside in our Markham Head Office.

What you will be doing as part of the Strategy & Business Analytics Department:

- Gather, create and analyze data to identify business opportunities, improve business processes and drive innovation.
- Respond accurately and in a timely manner to ad hoc requests for data analysis and reports.
- Utilize querying and visualization tools to produce reports.
- Work with management and other business professionals to analyze and interpret data using statistical techniques and knowledge of our business environment.
- Improve access to data while supporting the strengthening of data governance to ensure that data is properly managed, including data security and data integrity.
- Contribute to the design and testing of new analytical capabilities and reports generated from our data warehouse.
- Work with the business to design and deliver training to raise organizational competency levels in business analytics.
- Prepare documentation of business requirements, policies and procedures surrounding the development and maintenance of our data warehouse environment.

What you bring:

- A bachelor's degree with a quantitative focus in an applied context (e.g. applied mathematics, economics, engineering or business).
- Advanced knowledge and experience using MS Excel SQL and a Business Intelligence tool such as Tableau, Cognos or Oracle BI to analyze data and create reports (e.g. proficiency with financial and database functions, able to create and modify tables and forms, able to create programming logic to produce metrics used in analysis and reports).
- 2-5 years of demonstrated experience in working with relational data sets, data mining, data warehouse reporting and predictive analytics.
- A working knowledge of customer and marketing analytics including decision tree analysis, predictive modeling, scoring and strategy building is an asset.
- An understanding of business process design and reengineering is an asset.

Strong verbal and written language skills. Team oriented, flexible and proactive.

Job Types: Full-time, Permanent

Experience: business intelligence: 1 year (Required)

Education: Bachelor's Degree (Required)

SAMPLE POSTING 3

Royal Bank

Job Type: Internship Location: Toronto, ON Education requirements: Bachelor's degree

What is the opportunity?

The Personal Savings & Investment (PSI) Strategy & Analytics team collaborates with all branch investment, savings and direct investing product owners to assist in the creation and evolution of Line Of Buisness strategies. The team objective is achieved by generating, translating, and supporting the implementation of world class client and product insights that enhance RBCs client experience, drive business results, and increase loyalty to all PSI products. The role of the Analyst, Analytics & Insights in PSI is responsible for coordination, development and deployment of best-in-class analytics and business insights to help shape PSI strategy and executive decision-making.

What will you do?

 Support the Sr. Manager in proactively delivering objective, actionable and value added product and client insights

- Identification, Creation, Translation and Integration of Client and Product Insights in order to support the integration of comprehensive insights into the Partners business activities
- Support the alignment of analytics across PSI to improve Client Experience and maximize client potential
- Data and Reporting Capability Development (Tools, processes, procedures)
- Work with the Director and LOB leads to leverage product and client insights that impact and influence the delivery of business strategies and tactics and to balance near, mid, and long-term business growth
- Develop analytical solutions for PSI partners and executives on matters involving the business data, analytics and reporting
- Establish and foster strong, collaborative relationships with leaders within the designated Lines Of Business, and work with other RBC center of expertise (COE) to deliver against the stated needs and opportunities of the businesses

What do you need to succeed?

Must-have

- Experience with finance and/or marketing database data an asset
- Use of analytical tools (SAS, SQL, Excel)
- Development of BI reports using Tableau, SAS BI or any other BI tools
- Application of experimental design and analysis of results
- Demonstrated ability to work collaboratively through impact and influence in a cross functional environment.
- Strong problem resolution and analytical skills with a strategic mindset.
- Strong communication and presentation skills.
- Attention to detail, organization, ability to multi task and time management is critical.

Nice-to-have

• Experience in financial services industry, including a broad understanding of marketing, finance and credit granting is preferred.

What's in it for you?

We thrive on the challenge to be our best, progressive thinking to keep growing, and working together to deliver trusted advice to help our client thrive and communities prosper. We care about each other, reaching our potential, making a difference to our communities and achieving success that is mutual.

- Leaders who support your development through coaching and managing opportunities
- Ability to make a difference and lasting impact
- Work in a dynamic, collaborative, progressive, and high-performing team
- Opportunities to do challenging work
- Opportunities to take on progressively greater accountabilities

About RBC

Royal Bank of Canada is Canadas largest bank, and one of the largest banks in the world, based on market capitalization. We are one of North Americas leading diversified financial services companies, and provide personal and commercial banking, wealth management, insurance, investor services and capital markets products and services on a global basis. We have over 80,000 full- and part-time employees who serve more than 16 million personal, business, public sector and institutional clients through offices in Canada, the U.S. and 37 other countries. For more information, please visit rbc.com.

SAMPLE POSTING 4

Supply Chain Analyst

Peterborough, ON Shimano is a global company offering top labels and brands to the world's sporting community.

We are seeking a full-time Supply Chain Analyst to join our Shimano Canada Limited team in Peterborough, ON.

This newly created position will conduct data analysis with the goal of maintaining and improving forecast accuracy of our sales and supply chain operations, increase efficiencies, reduce costs and help the business to run as smoothly and profitably as possible.

Reporting directly to the Supply Chain Manager and under the supervision of the Divisional Manager, the duties and responsibilities of the Supply Chain Analyst include, but are not limited to, the following:

- With the aid of software, create and maintain demand forecast of Shimano Bike and Fish product brands for the Canadian market;
 - Work with sales teams to develop and refine demand plans and forecast models on a monthly basis across various levels of customer hierarchy;
 - Proactively review plans to identify potential issues with forecast models and intervene as required to adjust models/plans to meet sales objectives;
 - Provide feedback to the organization on actual forecast performance and collaborate with sales and product management teams to achieve continuous improvement;

- Recommend process improvements to demand planning process and forecast model preparation to drive performance and reduce costs;
- Work with sales team to help manage relationships with key collaborative accounts to improve demand planning, forecast accuracy and meet inventory availability requirements to meet customer plans;
- Track demand plans versus actual results to identify key variances and work with sales team to develop and drive corrective actions to improve plan to actual performance.
- Support Global Team Shimano planning by collaborating with North American planning counterparts to;
 - Coordinate and communicate the Canada demand plan and inventory forecast to the North American team;
 - Act as primary correspondent on all matters pertaining to Supply Chain for Canada.

The successful candidate will possess the following qualifications:

- University degree in Logistics, Business Analytics, Mathematics or a related field, or demonstrated equivalent experience in demand planning and supply chain management;
- Two (2) to five (5) years of experience with business/operations with preference to outdoor retailing or related industry;
- Excellent leadership, strong interpersonal skills and ability to work successfully with a variety of departments;
- Experience in data mining and reporting, with strong analytical skills and a willingness to engage in continuous improvement;
- Strong ability to convert huge amounts of fragmented data into credible observation and action points;
- Able to work cross functionally and recommend improvements to boost performance;
- Strong problem-solving skills and strong attention to detail.

This position may require some travel outside the local area and into the United States of America (<10%), which may include overnight stays.

The position offers a competitive employment package and compensation commensurate with experience in a friendly and collaborative work environment. Kindly forward your resume and cover letter via mail to scljobs@shimano.com

For more information, please visit our website at www.shimano.com/en/

Shimano Canada Ltd. is an equal opportunity employer and will not discriminate against any employee or applicant on the basis of age, color, disability, gender, national origin, race, religion, sexual orientation, veteran status or any classification protected by federal, provincial, or local law. Shimano Canada is committed to providing accommodations for people with disabilities. Applicants requiring accommodation during the recruitment and selection process are encouraged to make their needs known in advance if accommodation is required. We will work with you to meet your needs.

Crime Analyst

York Regional Police - Aurora, ON \$91,460 - \$96,360 a year **Note: Up to four (4) permanent vacancies available**

Position Requirements:

- Completed four (4) year university degree in Criminology or Social Sciences.
- Minimum of two (2) years in a related role, including, but not limited to, data analysis or research.
- Certification in Crime Analysis, Analytical Report Writing, and Specialized Analytical Training through the Society of Certified Crime Analysts, Alpha Group, CPC or CISO preferred.
- Experience in research methodology and statistical methodology.
- Advanced computer skills including but not limited to RMS, CPIC, Watson, Arcview, PowerCase, MTO ISS, Adobe Photo Editor and MS Office.
- Ability to use the internet as an intelligence tool.
- Analytical skills, including financial analysis and geographical analysis.
- Organizational, time management and logical thinking skills.
- Demonstrated decision-making abilities, good judgment and problem-solving.a
- Proven ability to complete a multitude of tasks simultaneously and work in a fast-paced, demanding environment.
- Problem solving abilities in order to process information that has been collected to manipulate and analyze the information to identify a particular crime area or prolific criminal offenders.
- Communication and interpersonal skills to interact with members of all ranks within the
 organization, external agencies, Region of York and other police agencies to exchange
 and clarify information and provide assistance and direction regarding proactive policing
 resulting in a decrease in crime, traffic related offenses and/or incidents.

Position Scope:

The duties for this position may involve, but are not limited to:

- Analyzing data and applying research methods to identify crime patterns and series, modus operandi profiles, victim/target profiles and identifying high crime, high traffic and high call areas or locations where public disorder is likely to occur and assisting in deployment strategies.
- Identifying and monitoring known criminals/organizations and any potential police hazards within the community.
- Gathering information by extracting, organizing and reviewing data from internal, external, open and closed sources.

- Researching and monitoring current events are they relate to regional and nationally issues via social media networks, external agency news releases and multimedia reports.
- Compiling data and preparing analytical products using investigative analysis software, database programs, statistical calculations and other computer software to produce link diagrams, event flow charts, telephone toll analysis, timeline diagrams, geographical maps, frequency diagrams, photo lineups, crime bulletins, proactive and reactive reports, and maintaining extensive criminal profiles for current and continuing investigative support.
- Developing and maintaining databases for use in crime and traffic analysis as well as for other members as requested. Maintaining the information in the databases as incidents occur or new information develops. Translates base geographic files for use in the geographic information system (GIS).
- Monitoring databases to identify emerging trends, patterns and series in order to search for suspect and offender information and identifying possible linkages.
- Collecting and disseminating information regarding current crime patterns, trends, significant incidents and other criminal information.
- Participating in meetings, briefings and conferences with police personnel, management and related government agencies and external stakeholders.
- Forecasting, projecting and analyzing crime by conducting correlation and regression analysis and using various investigative analysis software, database programs, statistical calculations and other computer software to determine if crimes are linked, in order to identify trouble areas, actual and anticipated criminal activity, crime patterns and series.
- Remaining current with various software applications related to crime analysis.

Additional Notes/Comments:

- The assigned location for this opportunity will be confirmed upon conclusion of the selection process.
- This opportunity may be subject to a shift rotation which will be determined once the location of this position has been assigned.

To Apply:

Please submit your resume online at yrp.ca. We thank all applicants for their interest in this opportunity; however only those selected will be contacted. All correspondence will be via the e-mail provided on your resume. Internal applicants will be given priority consideration in accordance with York Regional Police's Civilian Working Agreement.

Application Deadline: July 29, 2019

York Regional Police is committed to our Corporate Values. All York Regional Police employment policies and procedures are intended to be non-discriminatory and barrier-free in accordance with the principles and spirit of the Ontario Human Rights Code and the Accessibility for Ontarians with Disabilities Act. If contacted in regards to this competition, please advise the Human Resources Representative of accommodation measures you may require during our selection process. York Regional Police is committed to enhancing the quality of service we provide by not only meeting standards and community expectations, but exceeding them. We promote and instill a work environment where all staff members lead by example, are committed to responsible decision making, and are accountable.

VISION-INSPIRED MISSION-FOCUSED VALUES-DRIVEN

Source: Indeed.ca Accessed: July 25, 2019

SAMPLE POSTING 6

Decision Support Analyst, Decision Support

Ontario Shores Centre for Mental Health Sciences Whitby, ON Full-time

WHO WE ARE

Ontario Shores Centre for Mental Health Sciences (Ontario Shores) is a highly innovative public hospital that provides inpatient, outpatient and consultation services for people with complex mental illness. Patients benefit from a recovery-oriented environment of care built on compassion, inspiration and hope. Engaging in research, education and advocacy initiatives to advance the mental health care system, exemplary patient care is delivered through safe, evidence-based approaches where successful outcomes are achieved using best clinical practices and the latest advances in research.

POSITION SUMMARY:

Reporting to the Director, Data & Analytics, this position will provide support for a broad range of decision support duties including contributing to indicator definitions, data extraction, data analysis, and report development. This will include participation in corporate strategic projects as well as providing decision support services to stakeholders across the hospital as needed. A key component of this role will be to act as a resource on the interpretation of clinical data.

The incumbent will also contribute to other related reporting and analytics work at Ontario Shores as required.

The incumbent will support a workplace that embraces diversity, encourages teamwork and complies with all applicable and regulatory requirements.

POSITION REQUIREMENTS:

•Bachelor's degree in health information, epidemiology, statistics, math, business or other related field. Master's degree preferred.

 Demonstrated strong quantitative research, and analytical skills, including knowledge syntheses and report preparation and writing; Experience in creating, analyzing, developing and the related communications with customers regarding patient data and/or decision support tools is required;

 Demonstrated ability to analyze, construct, interpret, explain and present data crisply and cogently to senior executives and non-technical audiences;

Knowledge of statistical techniques, collection, analysis and processing of data;

•Experience working in the healthcare sector is preferred. Experience working in mental health is an asset;

 Demonstrated computer and statistical skills (Excel, PowerPoint, Access, SAS or SPSS);

•Knowledge of SQL language for data extraction from SQL based data repository.

 Proficiency with various databases used to capture information in various health sectors including: Hospital databases (e.g. IntelliHealth, CIHI NACRS, OMHRS); provincial/regional data repositories (e.g. Access to Care) and Hospital standards including ICD-10CA, RAI Mental Health, SCIPP, MIS Guidelines preferred;

•Experience with Business Intelligence reporting tools;

•2+ years' experience analyzing health care data is preferred. Experience in working with electronic health record data and mental health data are strong assets;

Project management experience considered an asset;

 Strong logical thinking skills and understand the importance of documentation and good practice;

•Proven track record developing strong relationships with stakeholder;

•Demonstrated ability to find the best approach or solution to highly diverse challenges and have the ability to adapt and manage changing priorities;

•Excellent written and verbal communications skills, particularly as they relate to the explanation of complex systems to a broader audience

Source: Google Accessed: July 25, 2019
College	PROGRAM TITLE	Length, Type (diploma, cert., post)	Delivery method(s)	OTHER (UNIQUE TO THE PROGRAM)
Algonquin	Business Intelligence System Infrastructure	Graduate Certificate	Optional Co-op	BYOD
Cambrian	Health Analytics	Graduate Certificate 3 semesters	Capstone Research Project	
Cambrian	Crime Analytics	Graduate Certificate 3 Semesters	Capstone Research project	
Cambrian	Information Systems Business	Graduate certificate	In-class delivery model	
Cambrian	<u>Analyst</u>	3 semesters	8-week placement	
Centennial	<u>Marketing –</u> <u>Research and</u> <u>Analytics</u>	Post- diploma 2 semesters	In-class delivery model with option co- op placement	Upon graduation, students have the option to take the Comprehensive Marketing Research Exam (CMRE) which leads to the Certified Marketing Research Professional (CMRP) designation Pathway to Davenport University Masters Business Administration – Strategic Management Course
Durham	Artificial Intelligence Analysis, Design and Implementation	Graduate certificate 2 Semesters	Optional work term (3 rd semester)	
Durham	Data Analytics for Business Decisions	Graduate certificate 2 semesters	In-class delivery model	
George Brown	Information Systems Business Analysis	Graduate certificate 3 semesters	Blended format. Face to face sessions with online delivery 2 specializations/ streams within the program: Analysis and Analytics or Finance Co-op option	Graduates with 77% in the program receive a second credential: the IIBA® Academic Diploma. accredited directly from the International Institute of Business Analysis.

12.4. Appendix IV: Competitors

George Brown	Analytics for Business Decision Making	Post- Diploma 2 semesters	Online "with course work and instruction offered through a combinations of in class, fully online, and hybrid classes"	40% of program is online
Georgian	Research Analyst	Graduate Certificate 3 semesters	1 work term	
Georgian	Big Data Analytics	Post- diploma 2 semesters	In-class delivery model	
Humber	Research Analyst	Graduate Certificate	12 week work placement	
Mohawk	Analytics for Business Decision Making	Graduate certificate 1 year	In-class delivery model	
Mohawk	Mohawk Business Analysis Graduate Certificate 1 year		In class delivery	
Seneca	Seneca Strategic Marketing and Marketing Analytics Graduate Certificate 2 semesters		Optional work term	
Seneca	<u>Honours Bachelor</u> of Crime & Intelligence Analysis (CIA)	Bachelor's degree 4 years	Research project	
Seneca	Business Analytics	Graduate certificate 1 year	Hybrid delivery method. "Delivery is mixed, blending face- to-face instruction and facilitating out-of- classroom experiences"	
St. Lawrence	Business Analytics	Graduate certificate 1 year, 3 semesters	In-class delivery model, with placement	



Wednesday, May 15, 2019

Carol Kelsey Dean, School of Health & Wellness and School of Justice & Community Development Sir Sandford Fleming College 599 Brealey Drive Peterborough, ON K9J 7B1

Re: Applied Data Analytics Ontario College Graduate Certificate

Dear Carol,

Thank you for inviting us to participate in the reference group for the Applied Data Analytics Ontario Graduate Certificate that you are developing at Sir Sanford Fleming (SSF) College. We acknowledge that Esri Canada has a strong and long-standing relationship with SSF as a school that maintains a site license with Esri and has been using Esri technology in its teaching for close to three decades. In turn, Esri Canada is an employer of many Fleming graduates.

Regarding the Applied Data Analytics certificate that is being proposed at SSF, we recognize that this is a program that addresses a sector that is rapidly growing. We have seen an increase in demand for people highly skilled in data analytics and data visualization and who are also well prepared with relevant and necessary technical and soft skills. From a technology standpoint, this trend is reflected in ongoing evolution of Esri's technologies to provide effective tools for geospatial data analytics and visualization. We are keen to see more graduates from SSF who can apply these industry leading technologies effectively. Given the program specializations (health, justice, business, and environment), we also recognize that these all inherently involve spatial issues that make essential the use of GIS and geospatial tools in general, and especially the technologies that Esri provides.

Considering the discussions held during the first reference group meeting that took place on May 2nd, 2019, we support the development of this program in principle. As the program is developed and implemented, Dr. Mike Leahy of the Education and Research group will provide relevant feedback on the curriculum. We are also able to provide support as the program is implemented (e.g., guest lectures, site visits, support for research projects). We also look forward to continuing our involvement as a member of the reference group.

Sincerely,

mustan

Dr. Brent Hall Director, Education and Research Esri Canada

> 12 Concorde Place, Suite 900 Toronto, Ontario M3C 3R8

т 416 441 6035 г 416 441 6838

esri.ca



Toronto Police Service

40 College Street, Toronto, Ontario, Canada. M5G 2J3 (416) 808-2222 FAX (416) 808-8202 Website: www.TorontoPolice.on.ca



Mark Saunders Chief of Police

April 6, 2019

File Number:

Carol Kelsey Dean, School of Health & Wellness and School of Justice & Community Development Sir Sandford Fleming College 599 Brealey Drive Peterborough, ON K9J 7B1

Dear Carol Kelsey:

Please accept this letter in support of the proposed Applied Data Analytics Ontario College Graduate Certificate program concept proposed by Sir Sandford Fleming College with a proposed launch of Fall 2020.

After reviewing the proposed curriculum, I can attest to the relevance and timeliness of this program and its target audience. There is a need for graduates with this level of applied data analytics skills and knowledge within the Toronto Police Service and the broader community safety sector. My organization is currently in the process of filling nearly 30 roles, which would be supported by students coming out of this field of study.

Due to the relevance to my organization of the proposed curriculum, subsequent to an approved agreement between our organizations, we would be able to provide *co-ops, and/or placements* for students in this new program. I would also be able to provide guest lecture, applied projects, site visits, mentoring, etc.

In summary, I fully support the Applied Data Analytics program concept proposed by Fleming for launch in Fall 2020. This will be a valuable certificate for graduates who wish to pursue employment in the data analytics field.

Sincerely,

lan Williams Manager, Analytics & Innovation Toronto Police Service



Steve Czajka Manager, Data + Visualization Studio City Planning Strategies Division Planning and Building Department City of Mississauga 300 City Centre Drive Mississauga, ON L5B 3C1

May 13, 2019

Carol Kelsey Dean, School of Health & Wellness and School of Justice & Community Development Sir Sandford Fleming College 599 Brealey Drive Peterborough, ON K9J 7B1

Dear Carol,

I am writing this letter in regard to your proposed Applied Data Analytics Ontario College Graduate Certificate program. I am a Data + Visualization professional with over 20 years of experience and I believe your program is well positioned for success.

Given the Reference Group Meeting that took place on May 2nd 2019 it was clear that you have selected a group of professionals who provided a well-rounded set of comments that will help to build a course program outline.

I believe that the relevancy of this program and timing of this program is directly in line with market needs. I have noticed a shift over my career from originally building many of the systems and datasets we use today to a demand for data analytics and visualization in an overall effort to support data driven decision making.

I would be happy to assist with validation of curriculum, supplying use case examples, and guest lectures perhaps (via webex). I would also like to look at long-term research projects to help solve complex issues.

Sincerely,

Steve Czajka

May 22, 2019

Carol Kelsey- Dean, School of Health & Wellness and School of Justice & Community Development Sir Sandford Fleming College- 599 Brealey Drive Peterborough, ON K9J 7B1

Dear Carol Kelsey:

Please accept this letter in support of the proposed Applied Data Analytics Ontario College Graduate Certificate program concept proposed by Sir Sandford Fleming College with a proposed launch of fall of 2020.

After reviewing the proposed curriculum, I can attest to the relevance and timeliness of this program and its target audience. There is a need for graduates with this level of applied data analytics skills and knowledge within CCO, the MOHLTC, Hospitals and the broader Health sector. I recently hired a graduate with an advanced analytic background from a very prestigious Ontario University, and despite her extensive training and knowledge, she lacked the necessary applied skills and experience to immediately contribute. A program like this would be amount one of the first, and give students access to hands on, real world experience, which is currently absent in so many "similar" programs.

Further, the fields of data, analytics and information or rapidly expanding. As a leader of a highly trained and effect team, I would absolutely consider augmenting personal development plans within my organization with courses leading to this certificate. Analytical acumen is quickly becoming a core competency in all stages of career and leadership.

Although my current role is likely to be impacted by transformation, I can speak from past experience in Hospital operations, and would argue that any hospital or health care provider would relish the opportunity to provide co-ops, and/or placements for students in this new program. I would also be ecstatic to guest lecture, mentor, and continue to assist the program development through consultation.

I see this as a unique opportunity to insure that programs and training at SSFC and performed through a robust framework, and can have an impact on improving care for patients and providers.

I am very much aware of the unique need for applied analytical skills, to meet the demands imposed by the distinct and diverse populations and challenges. The skills, relationships and network developed form this academic experience will provide new insights and opportunities for students to achieve success. In summary, I fully support the Applied Data Analytics program concept proposed by Fleming for launch in fall of 2020. This will be a very valuable certificate for graduates who wish to pursue employment in the data analytics field, and a great base for leadership.

Jonathan Wiersma M.Sc. - Director, Funding Unit Planning and Regional Programs CCO | Our future health built with care - 620 University Ave. 14th Floor, Toronto, ON M5G 2L7

12.6. Appendix VI: Incremental Costing Summary

Program Costing										
Program Name	Applied Da	ta Analytics	Date/Version		Octob	October-18-19				
Credential	Ontario Gra	d Certificate	School Dean		Trades and	l Technology				
Gross Domestic Tuition (per semester)	\$	2,450.00	Net Domestic financial aid 8	Tuition (less %)	\$	2,254.00				
Gross International Tuition (per semester)	\$	7,635.00	Net Internation Tuition	nal	\$	5,835.00				
WFU (WtxFu)		1	Base Operatir (BOG) Allocati (@ corridor m	ng Grant on per WFU id point)	\$	4,150.00				
WFU per semester	Small No 0.33 Grant Enl			n Rural (SNR) ement	\$	272.00				
Domestic Enrolment Projections										
Description	FY01	FY02	FY03	FY04	FY05					
Sem1	7	12	24	24	24					
Sem 2	5	9	18	18	18					
Sem 3	0	4	14	14	14					
Sem 4		0	0	0	0					
Sem 5		0	0	0	0					
Sem 6		0	0	0	0					
Total enrolment	12	25	56	56	56					
Co-op if applicable										
	Internatio	nal Enrolmo	nt Projections							
Description	FY01	FV02	EV03	EY04	EV05					
Sem1	13	18	36	36	36					
Sem 2	10	14	28	28	28					
Sem 3	0	8	22	22	22					
Sem 4		0	0	0	0					
Sem 5		0	0	0	0					
Sem 6		0	0	0	0					
Total enrolment	23	40	86	86	86					

Co-op if applicable

Incremental Costing										
	Rev	enues/Source	of Funding							
Description	FY01	FY02	FY03	FY04	FY05	Total				
Domestic Tuition	27,048.00	56,350.00	126,224.00	126,224.00	126,224.00	\$ 462,070.00				
International Tuition	134,205.00	233,400.00	501,810.00	501,810.00	501,810.00	\$ 1,873,035.00				
MTCU grant clawback	- 8,625.00	- 15,000.00	- 32,250.00	- 32,250.00	- 32,250.00	-\$ 120,375.00				
Other (list)										
Co-op funding	-	-	-	-	-	\$-				
subtotal - Program Revenues	152,628.00	274,750.00	595,784.00	595,784.00	595,784.00	2,214,730.00				
Fee for Service/Contract training										
Sale of Course Products										
Donations										
	\$152,628.00	\$274,750.00	\$595,784.00	\$ 595,784.00	\$595,784.00	\$ 2,214,730.00				
	Pro	ogram Delive	ry Costing	·	•					
Description	FY01	FY02	FY03	FY04	FY05	Total				
Salaries & Benefits						\$-				
FT Faculty	44,520.00	49,560.00	191,633.09	191,633.09	191,633.09	\$ 668,979.27				
PT Faculty	68,264.00	75,992.00	125,580.00	125,580.00	125,580.00	\$ 520,996.00				
Program Co-ordinator	16,938.87	16,938.87	24,966.91	24,966.91	24,966.91	\$ 108,778.47				
FT Technician	-	-	-	-	-	\$ -				
PT Technician	-	-	-	-	-	\$-				
other direct staffing										
Course Supplies/Instructional Cost						\$-				
Computer Software & Maintenance	15,500.00	15,500.00	15,500.00	15,500.00	15,500.00	\$ 77,500.00				
Frankte Transl						¢				
						φ -				
Equipment Rental and/or Maintenance						\$-				
Other-Office Supplies, Hospitality,										
Duplicating, etc.	4,040.00	4,040.00	4,040.00	4,040.00	4,040.00	\$ 20,200.00				
Program Delivery Costing	\$149,262.87	\$162,030.87	\$361,720.00	\$361,720.00	\$361,720.00	\$ 1,396,453.74				
Incremental Acade	emic Overhea	d - program	supports not d	irectly relate	d to delivery					
Description	FY01	FY02	FY03	FY04	FY05	Total				
Faculty - Travel and Professional	4 0 7 0 0 0	4.070.00	4.070.00	4.070.00	4.070.00					
Development	4,272.00	4,272.00	4,272.00	4,272.00	4,272.00	\$ 21,360.00				
Curriculum Quality supports -			15,000,00	15,000,00		\$ 30,000,00				
Other (list and add rows as needed)			13,000.00	15,000.00	-	¢ 30,000.00				
omer (list and add tows as freeded)						• - ¢				
	\$ 1272.00	\$ 4 272 00	\$ 10 272 00	\$ 10 272 00	\$ 4 272.00	\$ 51360.00				
			♥ 19,272.00	\$ 19,212.00		\$ 51,300.00				

Program Development/Investment										
Description	FY00	FY01	FY02	FY03	FY04	FY05	Total			
Development	94,367.00	1,910.00					\$ 96,277.00			
Equipment										
Consulting costs							\$-			
Capital expenditures	-	-	-	-	-	-	\$-			
Other (list)										
Total program development	\$ 94,367.00	\$ 1,910.00	\$-	\$-	\$-	\$-	\$ 96,277.00			
	-	Incre	mental Costi	ng Summary						
	FY00	FY01	FY02	FY03	FY04	FY05	Total			
Incremental Revenues		\$152,628.00	\$274,750.00	\$595,784.00	\$595,784.00	\$ 595,784.00	\$ 2,214,730.00			
Incremental Costs		\$153,534.87	\$166,302.87	\$380,992.00	\$380,992.00	\$ 365,992.00	\$ 1,447,813.74			
Net Investment	\$ 94,367.00	\$ 1,910.00	\$-	\$-	\$-	\$-	\$-			
NET INCOME/CASH	-\$ 94,367.00	-\$ 2,816.87	\$108,447.13	\$214,792.00	\$214,792.00	\$ 229,792.00	\$ 766,916.26			
	(Contributio	n to Overhe	ad						
	Non-	Incremental F	Program Distri	ibutions			Assumptions			
Description	FY01	FY02	FY03	FY04	FY05	Total				
							enrolment*per			
NTOLIO	47.000.00	00.050.00	00 544 00	00 544 00	00 544 00	*	semester WFU *			
MICU Grant	17,688.00	36,850.00	82,544.00	82,544.00	82,544.00	\$ 302,170.00	(BOG+SNR) -			
Dean & Other academic							to be determined by			
staffing supports	4,087.58	7,478.40	16,279.87	16,279.87	16,279.87	\$ 60,405.60	prior year program			
	170.010.00	044,000,000	070 000 00	070 000 00	070 000 00	0.540.000.00				
program revenue	170,316.00	311,600.00	678,328.00	678,328.00	678,328.00	2,516,900.00				
program expense	153,350.45	169,509.27	377,999.87	377,999.87	377,999.87	1,456,859.34				
		<u> </u>	* • • • • • • • • • • • • •	.	* • • • • • • • • • • • • • • • • • • •					
Overhead	\$ 16,965.55	\$142,090.73	\$ 300,328.13	\$300,328.13	\$300,328.13	\$ 1,060,040.66				
		46%	44%	44%	44%	000 577 00				
College Overhead Target	56,204.28	102,828.00	223,848.24	223,848.24	223,848.24	830,577.00				



Board of Governors | Briefing Note

Topic:Sexual Violence Prevention: Annual ReportReport To:Public Board MeetingMeeting Date:November 27, 2019Prepared By:Sandra Dupret, Vice President, Student Experience

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College approve the Sexual Violence Prevention Annual Report 2018-2019 for public posting in accordance with the Ministry's directive.

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 also 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

Alignment with Strategic Direction

Fleming College is working to be an inclusive 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 E	nvironment	ncial 🗌 Human	Resources
Information Technology	🖂 Legal	🛛 Operational	Strategic 🗌	🗌 N/A

Supporting Documentation

- Sexual Violence Annual Report 2018-2019

Sexual Violence Prevention: Annual Report 2018-2019

Supports, Services, Accommodations:

Students impacted by sexual violence, regardless of whether the report is formal or informal, recent or historical, are supported with internal and external services and/or referrals. Given that it is not best practice to ask why students access some of our services, it is difficult to report with accuracy how many times these services were used by people specifically impacted by sexual violence. Therefore, we recognize that statistics on how often supports are offered or obtained is very difficult to collect or articulate. 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 2018-19 include:

- Safety plans for on and off campus,
- Campus Safe Walks program provided by Security services; 108 students accessed this risk prevention program,
- Health related services including referral the Sexual Violence Response Team at the Peterborough Regional Health Centre (the College provides free transportation to students from all four campuses),
- Counselling services are available on campus and with the Kawartha Sexual Assault Centre, and/or other community resources,
- Assistance for students accessing police services to file a report. Police invited to campus to increase accessibility and comfort for students. Students choosing to file a report at the police station will be supported by the college, including transportation and advocacy,
- Referral to Victim Services for justice system support to assist in navigating the justice system, writing victim impact statements, and engaging in the criminal injury compensation process,
- Academic support, that includes notifying faculty of an "approved" absence under the absence policy without violating the victim's privacy and assisting in short-term accommodations

*This list is not exhaustive, every situation is responded to on a case-by-case basis and referrals and supports are offered based on the specific needs presented by the individual student.

Awareness Raising:

The College offers and participates in programs that raise awareness of sexual violence and promote a consent culture on campus. Programming also draws attention to the supports and services available to students on and off campus. In 2018-19, the college offered or collaborated on the following events:

- Support the Take Back the Night event in partnership with the Kawartha Sexual Assault Centre in all four communities
- Awareness event during the 16 days of Activism (November 25th-December 10th), this year we hosted "Consent IS" an interactive media project
- Hosted "Far From the Heart" a forum theater experience highlighting consent and bystander intervention
- Valentine's day and International Women's day events focusing on consent

- Passive intervention via posters and social media ('It's Never Okay' provided by the Ontario government's consent campaign, 'Draw-the-Line', 'Out of the Shadows', and Know your Rights posters)
- Pamphlet materials and public posters outlining support and reporting options available on campus
- Website with information about the policy, facts and myths, FAQ, online reporting tool (can be anonymous), internal and external support services. This includes 3 Clickable flowcharts easy online tools for faculty, staff or student 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

	Mandatory Residence Life Staff	Mandatory Students living in Residence	Mandatory Coaches and Athletes	Onboarding faculty	Security	By invite into classrooms	Open sessions (employees and students)
Sexual Violence Prevention Training Level 1 (issue of sexual violence, the policy, how to make a report, and how to receive a disclosure)	✓	√	√	~	~	~	~
Sexual Violence Prevention Training Level 2 – Bystander Intervention (facilitated conversations around how to be an active, pro-social bystander in situations of sexual violence)	√	√			 ✓ 	√	√
Wen Do Workshops (self-defence training for women)							~
"Down Low on Getting Down" workshop series focusing on sex-positive topics, reframing sexual violence education to focus on how to have healthy relationships							✓
Young Men Leading Change – Leadership and Ally building workshop series (specifically for male students from the international population)							~
Power of Me – Empowerment and Leadership workshop series (Specifically for female students from the international population)							~

2018-19 Workshops/Training:

In the 2018-2019 academic year, Fleming provided 44 student and 14 employee workshops to approximately 2550 people.

Reported Incidents:

Reporting statistics since launching the policy in 2015 indicate an increase in disclosures as compared to before the stand-alone College policy came into effect. This is promising, as it demonstrates how an increase in education and awareness, matched with a survivor-centric policy, can lead people impacted by harm to have an increased trust that the institution will respond appropriately and supportively and therefore 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.

	Formal Reports	Informal Reports
Sept 2018 – December 2018	6	12
January 2019 – April 2019	6	9
May 2019 – August 2019	3	6
Total	15	27

Of the above reports, the following subcategories help further describe the nature of disclosures:

	Sexual	Sexual	Voyeurism	Indecent	Sexual	Stalking
	Assault	Harassment		Exposure	Exploitation	
Formal	3	7	0	3	1	1
Informal	9	11	0	1	2	4

See appendix A for definitions of each category.

Informal reports include all reports made about an experience of sexual violence where the complainant does not want a formal report, or the disclosure does not meet the scope of the policy. The only time an informal report would lead to an investigation is when there is a greater community concern. In such cases, the complainant can choose how much or little they want to be involved in the process. Informal report options are a demonstration of Fleming's commitment to a survivor-centric approach where people impacted by sexual harm have the power to decide which next steps are best for them.

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 is able to 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 <u>https://www150.statcan.gc.ca/n1/en/pub/85-002-x/2017001/article/14842-eng.pdf?st=U_8u-A4</u>

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:Student Tuition FeesReport To:Public Board MeetingMeeting Date:November, 27, 2019Prepared By:Angie Sims, Director Budget Services,
Drew Van Parys Vice President, Economic & Community Development, Marketing

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College approve the student tuition fees as presented for implementation starting September 1, 2020.

Overview

Under the Ministry governance policies, it is required that the Board of Governors approve the college tuition fees. While traditionally, we have not brought fees to the Board until February, it has been determined that earlier timing would be beneficial in our ability to get to market early, especially in the International markets.

Under Ministry policy regarding tuition fees, all domestic fees are frozen, thus the college is recommending we continue with prior year fee structure. Reduction to fees would be the only other option for consideration.

While international fees are not controlled under ministry policy, they are sensitive to competition. The International Education Department maintains a network throughout the International education market to assess and recommend increases to fees that they feel are appropriate in the competitive market. From last fiscal, the college's strategy was to hold the international fees to a zero % increase helping with the price sensitivity as we attempted to move into different countries supporting our diversity strategy. This strategy has closed the gap to a more acceptable variance versus many competitive programs. For example, our International Business Management program was 6.4% above the system average in 2018/2019 and is now 1% above the system average for 2019/2020. We expect some competitors to take an increase higher than the 2-3% that we are proposing, which will bring us back into competitive range for future years. We will continue to monitor fees closely, along with the other key competitive determinants such as work opportunities, program features, student support services and agent commissions.

Moving into our next cycle, in consultation with Academic and International department, we are recommending a 2% increase in International fees to help offset inflationary costs in the costs of delivery and added focus supporting the International experience. Additionally we are requesting a 3% increase in fees for programs that are oversubscribed, high demand and with higher cost of delivery. Finally, there is a basket of programs were fees are at a very high price point and would request that they do not increase. These programs traditionally do not attract international students.

Alignment with Strategic Direction

The recommended pricing strategy aligns with our aim to remain competitive in existing markets (primarily India) and diversify our international student base through expansion into new markets.

Risks and Considerations

External Environment	Internal	Environment	Financial 🗌 Huma	an Resources
Information Technology	🗌 Legal	🖂 Operationa	I 🛛 🖂 Strategic	□ N/A

Supporting Documentation

Include the file names of any supporting documentation below: – International Tuition Fees

<u>Student Fees</u> (PER semester tuition) Proposal to come into Effect September 1, 2020

		<u>19/20 Fee</u>	20 Fees %			Fee proposal
	International Fees	Per semester	change	Per semester	change	Comment
	Regular Programs - Certificate	6775	0%	6910.5	2%	
	Haliburton - 2 over 1 for certificates	13550		13821	2%	
1	Regular Programs - Diploma	6775	0%	6910.5	2%	
I	GIS Programs	6775	0%	6910.5	2%	
	Graphic Design	6775	0%	6910.5	2%	Keeping up with inflationary cost to
	Arboriculture	6775	0%	6910.5	2%	run program
	High Demand with added program costs:					
	Applied Research	7635		7787.7	2%	
	Museum Management	7635		7787.7	2%	
	Cultural Heritage Conserv & Mg	7635	0%	7787.7	2%	
	International Business Management	7635	0%	7864.05	3%	higher demand
	Global Business Management	7635	0%	7864.05	3%	higher demand
	Project Management	7635	0%	7864.05	3%	higher demand
	Massage Therapy	7635	0%	7787.7	2%	
2	Biotechnology Forensics	7635	0%	7787.7	2%	
	Therapeutic Recreation	7635	0%	7787.7	2%	
	Sustainable Agriculture	7635	0%	7787.7	2%	
	Supply Chain	7635		7787.7	2%	
	Food and Nutrition Management	7635		7787.7	2%	
	Wireless Information Networking	7635	-5.9%	7864.05	3%	higher demand
	Practical Nursing	7635	-7.3%	7787.7	2%	
	Applied Planning - Environmental	7635	-4.1%	7787.7	2%	
	Ecological Restoration	8086	0%	8247.21	2%	
	Natural Resources Law Enforcement	8086	0%	8247.21	2%	
3	Health, Safety and Envir Comp	8086	0%	8247.21	2%	
5	Outdoor Adventure Education	8086	0%	8247.21	2%	
	Paramedic	8086		8247.21	2%	
	Pest Management	8086		8247.21	2%	
	Advance Water Operations	8500	6.5%	8670	2%	

<u>Student Fees</u> (PER semester tuition) Proposal to come into Effect September 1, 2020

			20/21 Fee proposal			
	International Fees	Per semester	% change	Per semester	% change	Comment
	Aquaculture	8500	6.5%	8670	2%	
	Computer Security and Investigation	8500	3.6%	8670	2%	
4	Sustainable Waste Management	8500	6.5%	8670	2%	
т	Blasting Techniques	8500	6.5%	8670	2%	
	Environmental Visual Communication	8500	6.5%	8670	2%	
	Heating, Ref & Air Cond	8500	6.5%	8670	2%	
	Heavy Equipment Operator	17000		17340	2%	
	Pre-Service Fire Fighter	9300		9300	0% price po	pint currently high
5	Sustainable Build and Design	9300	0%	9300	0%	
	Electrical Power Generation	9300	0%	9300	0%	
	Motive Power Techniques - Heavy Equipment	9300	0%	9300	0%	





Board of Governors | Briefing Note

Topic:	Interim Budget Update and Year End Budget Projections
Report To:	Public Board Meeting
	Endorsed by Finance and Audit Committee on November 20th ,2019 for final submission to
	the Board of Governors
Meeting Date:	November 27, 2019
Prepared By:	Angie Sims, Director Budget Services

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College approve the College's budget update which includes: total revenue of \$142,979,632; expenditures of \$140,667,087; capital expenditures of \$7,780,323; and net assets at March 31, 2020 of \$42,258,000, for submission to the Ministry of Training Colleges and Universities.

Overview

The College Financial Plan is reviewed mid-year to update the Preliminary Budget for known adjustments to the original budget assumptions. This Budget Update must be approved by the Board of Governors for submission to the Ministry for consolidation into the provincial government's Interim Budget.

The Budget Update process is now complete. This process provides all Budget Managers the opportunity to formally review Preliminary Budget assumptions, recognize actual enrolment levels, and make adjustments to account for events that may have occurred since establishing the Preliminary Budget. Administration has analyzed the adjustments required to the Preliminary Budget and submits the 2019-2020 Budget Update for Board approval.

The resulting \$2.3 million surplus achieves the Ministry Metric for Financial Heath by leaving > 1.5% of revenue as surplus.

Details of adjustments are itemized with the attached documents.

Risks and Considerations

External Environment	Internal	Environment 🗌 Fin	ancial 🗌 Humar	n Resources	
Information Technology	🗌 Legal	Operational	Strategic	🖂 N/A	

Supporting Documentation

- 2019-2020 Update Budget Statement of Revenue and Expenditures
- 2019-2020 Capital Investment Plan
- Draft 2019-2020 Financial Plan Update dated November 2019
- 2019-2020 Update Budget Financial Health Indicators

SIR SANDFORD FLEMING COLLEGE

2019-2020 Update Budget Statement of Revenue and Expenditures

	Lindoto Rudgot	Droliminory		
	Submission	Pudgot		
	2020	2020	Change	0/_
	2020	2020	Change	/0
Revenue				
Grants and Reimbursements	(45,893,250)	(45,636,458)	(256,792)	0.6% added pre-apprentice pro
Student Tuition Fees	(55,522,292)	(56,146,846)	624,554	-1.1% shift in enrolments tied off
	(1.000.0.(0))		(0.50, (0.0)	added intake with internat
Contracted Educational Services	(1,368,843)	(1,015,405)	(353,438)	34.8% Infarhu)
Other Income				
				Investment income increa
Other Income	(10,866,102)	(10,308,030)	(558,072)	5.4% conference/facility rentals
Ancillary Fees	(5,333,030)	(5,929,463)	596,433	-10.1% reduced overall enrolmen
Non-Operating Revenue	-	-	-	
Total Other Income	(16,199,132)	(16,237,493)	38,361	-0.2%
Amortization of Deferred Capital Contributions	(4,637,657)	(4,487,000)	(150,657)	3.4%
Total Operating Revenues	(123,621,174)	(123,523,202)	(97,972)	0.1% puts and takes within ope
Skills Programs	(3.301.606)	(3.278.133)	(23.473)	0.7%
Tuition Holdback Bursaries	(3.380.000)	(3,380,000)	-	0.0%
				anticipated increase in gra
Ministry Bursaries	(680,800)	(280,800)	(400,000)	142.5% budget
Special Projects	(4,927,926)	(2,688,321)	(2,239,605)	83.3% skill projects grants + 1.7 increase grant used to off
Facilities Renewal and Renovation Projects	(614,225)	(526,792)	(87,433)	16.6% spending)
Ancillary Operations	(6,453,901)	(6,366,401)	(87,500)	1.4% Residence share of confe
Total Revenue	\$ (142,979,632)	\$ (140,043,649) \$	(2,935,983)	2.1% Overall revenue increase

Comment

ograms ff to enrol. actuals and winter plan tional contracts - Panama (Bilingue and

ase, international health plan fees,

nt (~1600 students)

erating revenue are netting

ant disbursements from preliminary

M, balance from NSERC fset expense (redistribution from capital

erence fees for housing

with added project grants

SIR SANDFORD FLEMING COLLEGE

2019-2020 Update Budget Statement of Revenue and Expenditures

	Update Budget	Preliminary		
	Submission	Budget		
	2020	2020	Change	%
Expenditures				
Salaries and Benefits				
Salaries, Full Time	48,629,148	49,365,704	(736,556)	-1.5% Overall hiring delays
Salaries, Part Time	18,169,661	18,007,551	162,110	0.9% Additional PT contracts du
			(000.044)	Adjsuted for change in sta
Benefits	14,302,656	15,002,597	(699,941)	-4.7% hires
Total Salaries and Benefits	81,101,465	82,375,852	(1,274,387)	-1.5%
Non-Salary Expenses	21.4%	22.3%		
				added cost in relation to ne
Instructional Support Costs	6,630,510	6,403,822	226,688	3.5% program field work costs.
Travel and Professional Development	2,274,852	2,116,319	158,533	7.5% added hospitality as for co
Advertising	1,411,368	1,281,281	130,087	10.2% \$75K Tech Trade promotic
Telephone, Audit, Legal & Insurance	2,963,039	2,828,352	134,687	4.8% added international studer
Equipment Maintenance	722,210	714,860	7,350	1.0%
Plant and Security	2,851,590	2,859,044	(7,454)	-0.3%
Rentals and Taxes	1,062,664	995,607	67,057	6.7% Added cost required with r
Utilities	2,737,261	2,636,129	101,132	3.8% additional utility costs fore
Contract Services Trent	2,355,850	2,355,850	-	0.0%
Services & Other	9,601,155	8,944,145	657,010	7.3% Agent Commissions
Long Term Debt Interest	121,794	178,009	(56,215)	-31.6% Delay in advance in loan
Amortization of Capital Assets	7,155,855	7,045,853	110,002	1.6% Added asset to mix, see C
Total Non-Salary Expenses	39,888,148	38,359,271	1,528,877	4.0%
Total Operating Expenditures	120,989,613	120,735,123	254,490	0.2%
				\$42 K Academic equipme
				upgrade, \$185 K added pr
Investments	1,677,602	1,427,654	249,948	17.5% (facilities)
Skills Programs	3,301,606	3,278,133	23,473	0.7%
Tuition Holdback Bursaries	3,380,000	3,380,000	-	0.0%
				anticipated increase in gra
Ministry Bursaries	680,800	280,800	400,000	142.5% budget
Special Projects	4,927,926	2,688,321	2,239,605	83.3% added grant projects
Facilities Renewal and Renovation Projects	-	-	-	
				\$ 242 K salary savings and
				\$103 K additional savings
Ancillary Operations	5,709,540	6,112,118	(402,578)	-6.6% projected savings on resid
Total Expenditures	\$ 140,667,087	\$ 137,902,149 \$	2,764,938	2.0%
Net	\$ (2,312,545)	\$ (2,141,500)	(171,045)	8.0%

MCU - sustainablity metric surplus = or > 1.5% revenue -\$ 2,144,694.48 -\$ 2,100,654.74

Comment

ue to delayed FT hires affing mix and savings with delayed

new pre-apprentice contracts with added

onference center expenditures ion, balance re: staff hiring ent health insurance requirements

new pre-apprentice contracts cast

Capital Assets

ent (non-capital), \$30 K firewall rojects - student focus strategic priority

ant disbursements from preliminary

cillary operations -Residence/Parking, on paving and asset for parking, \$58 K dence operations

2019-2020 Capital Investment Plan > \$50,000 Report

PROJECT NAME	BUSINESS NEED	College Base Capital	Enhanced College Capital Grants	Total	Preliminary Budget Forecast
Replacement of brick siding - Sutherland	Replacement of stacked brick on the exterior of the Desbiens Wing (yr 2 of a 5 yr plan). Original installation has failed to adhere, causing a H&S risk due to dropping bricks.	_	348,492	348,492	300,000
Roof Replacements	Annual cycle roof replace repair.	281,443	76,755	358,198	340.000
LED Lighting installs	Continued efforts to replace college lighting to LED lighting	238,384		238,384	167,000
College Campus Master Planning	Develop an Integrated Master Plan for all campuses' program/space needs	140,000		140,000	140,000
LAN room chiller install	Completion (install) of prior year project to replace cooling system for Sutherland data centre.	85,000		85,000	60,000
Paving	To replace worn asphalt surfaces on various roadways and parking lots	91,786		91,786	127,500
Exterior Glazing - Frost	Replacement of existing windows in various locations on main building. Windows are old and have settled leaving exposed areas to the exterior and allowing water infiltration resulting in water and moisture damage and ongoing repairs to the affected areas.	120,000		120,000	100,000
Br-Replace Honeywell Card Access	Install replacement Card Access system in D wing (defective) with new standard system that is in A Wing.	65,000		65,000	65,000
Building Construction/Renovations	Subtotal Projects > \$50,000	1 021 613	425 247	1 //6 860	-
Building Construction/Renovations	Subtotal Projects < \$50, 000	205,282	-	205,282	145,871
	Total Building Construction/Renovations	\$ 1,226,895	\$ 425,247	\$ 1,652,142	\$ 1,445,371

Network/IT Systems					-
Core Network Replacement	The College's current core network switches at the Sutherland and Frost data centres are coming end-of-life and end-of-support. ITS has a limited ability to purchase support for this critical components and has recently resorted to purchasing refurbished parts to supplement growing network infrastructure needs. The College will run an elevated risk of a core network infrastructure failure if these devices are not replaced in the upcoming fiscal year.	307,500		307,500	400,000
SAN Refresh	The College disk storage - H drives, S drives and Evolve currently has three Dell Equalogic SANs coming end-of-life/end-of-support in FY2019/2020. This asset will consolidate the College's three oldest SAN into one new consolidated SAN. Without this asset, the College data infrastructure will be at an elevated risk of device failure, and potentially relying only on best effort support to remedy/recover from a SAN failure.	232,500		232,500	140,000
Core Firewall Upgrade ROI	The new PA-5220 firewalls are comparable to the College's current PA-5060 but with a substantially lower operating cost. Upgrading is predicted to save the College \$70K per year on annual hardware and support costs. The payback for this one-time capital investment is 18-months.	90,000		90,000	115,000
Secondary Internet Build-in Fibre	This asset will provide a reliable redundant Internet connection for the College. Current Internet service is via a single provider on a single line, exposing the College to the risk of an extended Internet outage from a variety of factors.	80,000		80,000	80,000
AV Digital Upgrade	As part of the analog to digital migration plan, the college must update our audio video switching equipment to stay current. As well as upgrading specific lecture theatres, we are recommending the college also update the classrooms. This will ensure that both external and internal users can display the latest video content. This equipment is also required before we can further upgrade a classroom for lecture capture.	175,000		175,000	75,000
VDI Expansion - GPU blade 3	This hardware and software will be used to expand the user capacity of the new Dell VxRail based VDI (Virtual Desktop Interface) solution. The GPU enhanced hardware and graphic licensing are required to run more intense graphics workloads, such as GIS and AutoCAD applications. This hardware will be used to replace the aging VDI hardware currently used for GIS remote academic delivery and general student access to VDI resources as a "virtual LRC".	70,000		70,000	70,000
Video Conference Units	Further deployment of additional video conference units for academic delivery & organizational collaboration.	50,000		50,000	50,000
					-
Network/IT Systems	Subtotal Projects > \$50, 000	1,005,000	-	1,005,000	930,000
Network/IT Systems	Subtotal Projects < \$50, 000	186,155	-	186,155	130,000
	Total Network/IT Systems	\$ 1,191,155		\$ 1,191,155	\$ 1,060,000

Academic Equipment					-
TT05-Festo Trainer	Due to demand from domestic and international students, the School of Trades & Technology will be delivering a new post graduate certificate beginning Fall 2019 in the field of Mechatronics. This equipment is essential for curriculum delivery and for applied projects which are a differentiator for the program.	477,507	241,551	719,058	680,000
SENRS03-Diamond Drill	With a new diamond drill rig, the Resource Drilling and Blasting program could eliminate the 40-year-old outdated technology, which is in need of a very expensive repair. Replacing the Long year translates to reduced fuel consumption and reduced emissions by using current technology. Less fuel consumption equals fewer emissions, which reduces the College's carbon footprint.	241,979		241,979	279,207
SENRS02-4 Skid Steers	The Heavy Equipment Operators Program is needing to expand the type of machines they are offering in the program. The majority of new graduates leaving the program going into the workplace will operate skid steer type loaders first as a stepping stone into the operating industry. Skid steer loaders are utilized in virtually all industries	246,594		246,594	248,184
JCD01-Phase 2 AV A-Wing	Phase 2 of prior year approved project to provide for a simulation centre management solution within the newly renovated labs in A-wing. This will install cameras in all remaining labs on A1 and A2 and connect them to the management system.	59,184		59,184	77,558
JCD04-Simulation and Virtual Reality	Installation of immersive simulation pod. This includes everything from driving simulations (ambulance, etc.) firearms training and safety (PF) mental health assessments (SSW, DSW, MHAW) mass casualty scenarios (PN and PMD)	50,000		50,000	50,000
Academic Equipment	Subtotal Projects > \$50, 000	1,075,264	241,551	1,316,815	1,334,949
Academic Equipment	Subtotal Projects < \$50, 000	350,484	145,000	495,484	524,041
	Total Academic Equipment	\$ 1,425,748	\$ 386,551	\$ 1,812,299	\$ 1,858,990
Applied Research					-
CEL	Fleming applied to CFI and the Ontario Research Fund for \$2 million in cash for equipment and increased infrastructure that will allow Fleming's Centre for Advancement of Water and Wastewater Technologies and its private sector partners to discover and develop techniques and methods for water reclamation and nutrient removal.	\$ 853.345	\$ 1.837.521	2 690 866	2.074.388

NSERC - ARTI	The CAWT successfully obtained funding from NSERC for the acquisition of a centrifuge with a SCADA control system and an inline TSS probe that will provide us an opportunity to expand our capacity to assist our partners with their onsite wastewater treatment technologies research needs.				301,662		301,662	133,256
	Subtotal Projects > \$50, 000) \$	853.345	\$	2.139.183	\$	2.992.528	2.207.644
RIIEO	Subtotal Projects < \$50, 000)	1,857		65,342	Ŧ	67,199	
	Total Applied Research	\$	855,202	\$	2,204,525	\$	3,059,727	\$ 2,207,644
Residence Operations								-
	Subtotal Projects < \$50, 000)	65,000				65,000	105,000
Total Residence						\$	65,000	105,000
		_		1				
т	otal 2019-2020 Capital Investment Plan	\$	4,764,000	\$	3,016,323	\$	7,780,323	\$6,677,005

Fleming College

Fleming College Financial Plan Update 2019-2020

DRAFT

November 2019

November 27, 2019 | Public Meeting Package Page 171

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III.	Expenditures	6
IV.	Capital	8

I. Summary

Total revenues for this Updated Financial Plan are \$143.0 million, an increase of 2.1% over the 2019-2020 Preliminary Budget. Total expenditures have also been projected to increase to \$140.7 million, leaving \$2.3 million available as a contribution to College reserves.

Capital investment is budgeted at \$7.8 million, an increase of \$1.1 million from Preliminary Budget.

Net Assets are projected to be \$42.3 million at March 31, 2020.

	_	(\$ 000's)					
	20	Update Budget 2019/2020		Preliminary Budget 2019/2020		\$ crease crease)	% Increase (Decrease)
Revenue							
Grants & Reimbursements	\$	45,893	\$	45,636	\$	257	0.6%
Student Tuition Fees		55,522		56,147		(625)	-1.1%
Contract Training		1,369		1,015		353	34.8%
Other Income		16,199		16,237		(38)	-0.2%
Amortization		4,638		4,487		151	3.4%
Skills, Bursaries, Ancillary & Projects		19,358		16,520		2,838	17.2%
Revenue		142,980		140,044		2,936	2.1%
Operating Expenses		113,834		113,939		(106)	-0.1%
Amortization Expense		7,156		7,046		110	1.6%
Skills, Bursaries, Ancillary & Projects		19,677		16,917		2,760	16.3%
Expenses	\$	140,667	\$	137,902		2,765	2.0%
Excess of Revenue over Expenditures	\$	2,313	\$	2,142		171	8.0%

Fleming College Financial Plan Update Budget 2019/2020 SUMMARY

Projected	Year End	\$	%
Balance	Balance	Increase	Increase
Mar 31/20	Mar 31/19	(Decrease)	(Decrease)

NET ASSETS

Invested in Capital Assets				
As of April 1, 1997	\$ 2,417	\$ 2,417	\$ -	
Since April 1, 1997	21,929	24,223	\$ (2,293)	
Total Invested in Capital Assets	 24,346	26,640	 (2,293)	-8.6%
Unrestricted				
Operating (Board Reserves)	19,400	14,804	4,596	
Accrued vacation pay, Future Benefits				
and Derivative & Sick Leave & PSA *	(9,294)	(9,294)	-	
Total Unrestricted	 10,106	5,510	 4,596	83.4%
Internally Restricted	1,178	1,168	10	
Subtotal Net Assets	 35,630	33,318	 2,313	6.9%
Externally restricted	6,628	6,628	-	
TOTAL NET ASSETS	\$ 42,258	\$ 39,946	\$ 2,313	5.8%

II. <u>Revenue</u>

College revenues are budgeted at \$143.0 million, an increase of 2.1% from revenues projected in the 2019-2020 Preliminary Budget.

SIR SANDFORD FLEMING COLLEGE				
Financial Plan - Update Budget				
Fiscal Year 2020				
	Update Budget			
	Submission	Preliminary Budget		
	2020	2020	Change	%
Revenue				
Grants and Reimbursements	(45 893 250)	(45 636 458)	(256 792)	0.6%
Student Tuition Fees	(55.522.292)	(56.146.846)	624.554	-1.1%
	(**;*==;=*=/	(00,110,010)		,.
Contracted Educational Services	(1,368,843)	(1,015,405)	(353,438)	34.8%
Other Income				
Other Income	(10,866,102)	(10,308,030)	(558,072)	5.4%
Ancillary Fees	(5,333,030)	(5,929,463)	596,433	-10.1%
Total Other Income	(16,199,132)	(16,237,493)	38,361	-0.2%
Amortization of Deferred Capital Contributions	(4,637,657)	(4,487,000)	(150,657)	3.4%
Total Operating Revenues	(123,621,174)	(123,523,202)	(97,972)	0.1%
Skills Programs	(3,301,606)	(3,278,133)	(23,473)	0.7%
Tuition Holdback Bursaries	(3,380,000)	(3,380,000)	-	0.0%
Ministry Bursaries	(680,800)	(280,800)	(400,000)	142.5%
Special Projects	(4,927,926)	(2,688,321)	(2,239,605)	83.3%
Facilities Renewal and Renovation Projects	(614,225)	(526,792)	(87,433)	16.6%
Ancillary Operations	(6,453,901)	(6,366,401)	(87,500)	1.4%
Total Non-Operating Revenues	(19,358,458)	(16,520,447)	(2,838,011)	17.2%
Total Revenue	\$ (142,979,632)	\$ (140,043,649)	\$ (2,935,983)	2.1%

1. Grants and Reimbursements

Additional grants were added to the college financial plan as they have been confirmed with the funders. Most notably, additional grants were secured for pre-apprentice programs.

2. Student Tuition

Student tuition is projected to decrease by \$0.6 million over Preliminary Budget as a result of summer and fall enrolments and resulting adjustment to winter enrolment projections.

3. Contracted Education Services

Additional contracts were awarded related to international education services.

4. Non-Operating Revenues

The revenue recorded in this category represents funding received from multiple sources including a variety of funds secured for bursaries and projects with third party partners (i.e. funding for CAWT research) and a variety of Ministry grants. Of note, additional funding of \$1.7 million was secured under new skill advancement programs. An increase in Ministry Bursaries of \$400,000 represents plans for distribution of student bursaries from College endowment funds and other donor awards. These increases are offset fully by increases in matching expenditures.

Additionally, \$87,433 of grant funding provided for facility renewal & academic equipment projects was reclassified from capital assets.

Ancillary Operations represents revenues from the College Residence and Parking Revenues. The primary increase in revenue is for the added housing revenue from conference centre activity.

III. Expenditures

College expenditures are budgeted at \$140.7 million, an increase of 2.0% from preliminary budget.

SIR SANDFORD FLEMING COLLEGE				
Financial Plan - Update Budget				
Fiscal Year 2020				
	Update Budget Submission 2020	Preliminary Budget 2020	Change	%
Expenditures				
Salaries and Benefits				
Salaries, Full Time	48,629,148	49,365,704	(736,556)	-1.5%
Salaries, Part Time	18,169,661	18,007,551	162,110	0.9%
Benefits	14,302,656	15,002,597	(699,941)	-4.7%
Total Salaries and Benefits	81,101,465	82,375,852	(1,274,387)	-1.5%
	21.4	% 22.3%		
Non-Salary Expenses				
Instructional Support Costs	6,630,510	6,403,822	226,688	3.5%
Travel and Professional Development	2.274.852	2.116.319	158.533	7.5%
Advertising	1.411.368	1.281.281	130.087	10.2%
Telephone, Audit, Legal & Insurance	2,963,039	2,828,352	134,687	4.8%
Equipment Maintenance	722,210	714,860	7,350	1.0%
Plant and Security	2,851,590	2,859,044	(7,454)	-0.3%
Rentals and Taxes	1,062,664	995,607	67,057	6.7%
Utilities	2,737,261	2,636,129	101,132	3.8%
Contract Services Trent	2,355,850	2,355,850	-	0.0%
Services & Other	9,601,155	6 8,944,145	657,010	7.3%
Long Term Debt Interest	121,794	178,009	(56,215)	-31.6%
Amortization of Capital Assets	7,155,855	7,045,853	110,002	1.6%
Total Non-Salary Expenses	39,888,148	38,359,271	1,528,877	4.0%
Total Operating Expenditures	120,989,613	120,735,123	254,490	0.2%
Investments	1,677,602	1,427,654	249,948	17.5%
Skills Programs	3,301,600	3,278,133	23,473	0.7%
Tuition Holdback Bursaries	3,380,000	3,380,000	-	0.0%
Ministry Bursaries	680,800	280,800	400,000	142.5%
Special Projects	4,927,926	5 2,688,321	2,239,605	83.3%
Ancillary Operations	5,709,540	6,112,118	(402,578)	-6.6%
Total Expenditures	\$ 140,667,087	\$ 137,902,149	\$ 2,764,938	2.0%

1. Full Time Salaries

Full time (FT) salaries are budgeted based on the current College staff complement and all Collective Agreements that are currently in place. FT salaries also include approved staff sabbaticals and a provision for sick leaves. Overall, FT salary expenditures have decreased from Preliminary Budget by \$0.7 million due to delayed hires and unanticipated turnover.

2. Part Time Salaries

Part time (PT) salaries have increased by \$162,110 from the Preliminary Budget due to additional backfill and temporary hires as replacement for FT staff turnover.

3. Benefits

Benefits have decreased accordingly with the change in staffing mix and delay of FT hires.

4. Non-Salary Expenses

Overall the Non-Salary Expenses project an increase of \$1.5 million (4.0 %). This significant increase is due to a variety of sources including:

- **Instructional Supplies** have increased by \$226,688 which includes added investment in academic technology/software plus a small increase in supplies with added pre-apprentice contracts.
- **Travel and Professional Development** has increased by \$158,533 as required for an increase in events hosted by the college conference centre and recreation and offset by an increase in facility rentals.
- **Advertising** (increase \$130,087) represents an increase in promotions for skill fairs and Tech. Trade events along with added advertising for staff hires.
- **Telephone, Audit, Legal & Insurance** has increased with an offsetting increase in other income due to added health insurance for our International students.
- Services & Other have projected to increase by \$657,010 due to increases in payment of agent commissions associated with an increase in intake forecasted in our international student enrolment plan.

5. Non-Operating Expenses

As described with the increases to non-operating revenues, disbursements planned for bursaries and grant-funded project-related expenditures have increased by \$2.6 million.

\$249,948 has been added to the college expense investments and facility renewal projects as part of the overall college strategy to enhance college welcoming environment.

Decrease costs of \$402,578 in ancillary operations is related to deferred hiring with staff turnover and deferral of planned paving projects.

IV. Capital

Capital spending for the 2019-2020 Update Budget is planned at \$7.8 million. This represents an increase of \$1.1 million from Preliminary Budget.

Additional capital includes:

- \$850,000 added grant funding with applied research.
- \$166,000 added cost to facility/residence projects.
- \$130,000 added cost to student digital displays and system servers.
- \$46,000 savings from Academic equipment purchases.

For the 2019-2020 Update Budget, Capital items budgeted are summarized below:

	College Base	Enhance College		Preliminary Budget
	Capital	Grants	Total	Forecast
Building Construction/Renovations	1,226,895	425,247	1,652,142.000	1,445,371
Network/IT Systems	1,191,155		1,191,155.000	1,060,000
Academic Equipment	1,425,748	386,551	1,812,299.000	1,858,990
Applied Research	855,202	2,204,525	3,059,727	2,207,644
Residence Capital	65,000		65,000	105,000
	4,764,000	3,016,323	7,780,323	6,677,005

Fleming College Financial Plan Update Budget 2019-2020 Financial Sustainability Metrics (Indicators)

		Projected March 31/20	Actual March 31/19	Change
Ratios	Benchmarks			
Annual Surplus/(Deficit) (in millions of \$)	> \$ 0	\$2	\$ 13	\$ (11)
Accumulated Surplus/(Deficit) (in millions of \$)	> \$ 0	\$ 36	\$ 34	\$ 2
		Pass	Pass	
Net Assets to Expense Ratio	> 60.0%	86.4%	86.9%	-0.5%
		Pass	Pass	
Debt Servicing Ratio	< 3.0%	1.1%	0.9%	0.2%
		Pass	Pass	
Quick Ratio	> 1	2.3	2.0	0.3
		Pass	Pass	
Debt to Assets Ratio	< 35.0 %	25.2%	26.5%	-1.3%
		Pass	Pass	
Net Income to Revenue Ratio	> 1.5%	1.6%	8.8%	-7.2%
		Pass	Pass	





Board of Governors | Briefing Note

Topic:	Enterprise Risk Management - Status Report
Report To:	Public Board Meeting
	Reviewed by Finance and Audit Committee on November 20th, 2019 for final submission to
	the Board of Governors
Meeting Date:	November 27, 2019
Prepared By:	Angie Sims, Director Budget Services

Recommended Motion

This report is provided for information and discussion.

Overview

Attached to this report is the College Risk Register showing detail on the High and Critical Risks. College risk managers have conducted a review of the register providing updates as applicable.

At this time a new risk was identified with the increasing activity of having students travel out of province or abroad. Travel insurance is being looked at as the primary mitigating control. All other risks, as previously disclosed, remain in the same state.

Alignment with Strategic Direction

N/A

Risks and Considerations

External Environment	Internal	Environment 🗌 Fir	nancial 🗌 Humar	n Resources	
Information Technology	🗌 Legal	Operational	Strategic	🖂 N/A	

Supporting Documentation

College Risk Register
Risk Register - Critical and High Risk

Identify Risks Risk ID **Risk Name Risk Category Description of Risk** Controls We will be increasing our Data Science capacity with a new position starting in Octobe Risk of not meeting new weighted metric targets (that are to augment the already strong performance metrics capabilities in the Institutional New Performance-Based set by gov't) in the Performance-based funding envelop Research Office. <u>ST7</u> Funding metrics and Financial that could result in reduced resource allocation from We have included a Labour Market Advisor to help mitigate the risk impact by targets MTCU to Fleming in year. increasing Labour Market analysis and capabilities related to new LM metrics. In year funding risk will require contingency planning at prelim budget time. The risk of policy or legislation changes that impact finance and create a need to add resources for Full participation within College sector networks such as Colleges Ontario to stay implementation may result in financial hardship, Change in <u>ST17</u> advised on emerging issue and impact. Strategic Policy/Legislation unexpected reallocation of needed resources and loss of Develop preparedness and contingency strategies for emerging issues. needed talent. Any delays in implementation may also impact college reputation. The risk of improper forecasting which will result in - Budget Committee in place for governance; forecasting/budgeting tools and incomplete/ inaccurate budgets resulting in improper templates well established and communicated <u>FI4</u> regular monitoring and financial reports & updates published Financial resource allocation and loss of Improper forecasting internal reputation/confidence (ie with Board) ties into regular oversight & review of budget submissions trending analysis and monitoring monthly for reasonability FI9 The risk that the College will experience a successful cyber ITS strategy to maintain current in next gen infrastructure that responds dynamically attack, or other systems security breach - resulting in, loss Cyber security/data to threats and updates in real-time - reducing resource workload. <u>IT3</u> Operational of data, loss of personal and financial data, loss of breach - Cyber security insurance coverage inplace operational and academic systems, and the subsequent Intrusion detection monitoring and reporting in place reputational damage to the institution Tax Residency Form has been filed with CRA a risk of unknown tax requirements could result in International Activity in <u>EE3</u> Financial - Consultation with KPMG unknown consequences for Fleming India - Previous engagement with KPMG regarding possible contract training opportunities A risk of negative consequences on a student field trip which could result in student dissatisfaction, financial Appropriate travel insurance for students Operational (Includes Info. Student trips out of <u>OP20</u> costs to the College to attend to the negative event, and Itinerary logged at appropriate level of the College province or abroad Tech) possibly reputational loss if the negative event and lack of Risk assessment prior to committing to a trip preparation were to make it into the media.

		Analyze Risks		Evaluat	e Risks	Prior Year Score	Trending	Q1	Q2	Q3	Q4
	Likelihood	Consequence	Score	Target	Exceed						
۶r	4	5	20	12	Yes	New Risk	÷>	20	20		
	4	4	16	6	Yes	20	÷>	16	16		
	4	4	16	9	Yes	9	÷>	16	16		
,	4	4	16	10	Yes	9	÷>	16	16		
	3	5	15	6	Yes	New Risk	÷>	15	15		
	3	4	12	6	Yes	New Risk	"new"		12		

	Risk Category	Description of Risk	Controls
sfully	Operational	The risk that we do not have adequate resource capacity (particularly in PRD and Procurement departments) to successfully execute large, complex projects when funding opportunities are available (this is likely to increase in	Segregation of duties, eg: multi-level approval/sig review of large dollar variances/change orders etc

Risk Register - Critical and High Risk														
	Identify Risks				Analyze Risks			Evaluate Risks		Prior Year Score	Trending	Q1	Q2	Q3 Q4
Risk ID	Risk Name	Risk Category	Description of Risk	Controls	Likelihood	Consequence	Score	Target	Exceed					
<u>OP3</u>	Capacity for Successfully Completing Large Capital Projects	Operational	The risk that we do not have adequate resource capacity (particularly in PRD and Procurement departments) to successfully execute large, complex projects when funding opportunities are available (this is likely to increase in frequency given the extent of deferred maintenance and Governments' infrastructure priorities). This significantly increases the reputational, financial and legal risk exposure to the College.	Segregation of duties, eg: multi-level approval/signoff documents/processes, regular review of large dollar variances/change orders etc. Review of documentation by finance team, and validation of budgets/reporting summary	3	4	12	6	No	12	÷>	12	12	
<u>FI18</u>	Enrolment Risk	Financial	Risk that declining domestic markets and volatile international market will result in decline in overall college enrolments creating a reduction in revenues with impact on overall financial health of the college.	Domestic: Develop and implement a comprehensive long-term enrolment strategy. Enhance and accelerate new product development, develop and implement new marketing and recruitment strategies, enhanced service and responsiveness with attention to conversion and retention strategies. International: Revised data tracking and reporting, enhanced and accelerated new product development, increase application to offer timeframes in all markets, open registration windows earlier, develop new markets to mitigate risk and reliance on one key market (India)	3	4	12	8	Yes	12	÷>	12	12	
<u>OP16</u>	Accessible material and accessibility	Operational	Risk of increased student demands for accessible library resources and College requirement of needing to provide an accessible format on demand in the near future may result in the College will be not compliant with legislation.	Opt-in to service coordinated by provincial Library consortium to facilitate the conversion of print resources. Promote use of service(s) to college community to encourage compliance Work with provincial library consortia working group to develop mechanism (LEAP) for assessing AODA compliance of e-resources.	4	3	12	8	Yes	8	÷>	12	12	
<u>IE3</u>	Overlapping/unclear accountabilities	Human Resources	The risk of a lack of understanding of roles and responsibilities may lead to error in processes, delay in process, duplication of effort and/or low staff morale. In addition opportunity to streamline operations is overly complex with multiple parties involved.	Organizational review, committee terms of reference documents, HR job evaluation review	4	3	12	5	Yes	9	÷>	12	12	
<u>F15</u>	Asset Management/Aging Infrastructure	Financial	The risk of not having a comprehensive corporate asset management system may result poor asset/capital budgeting & under budgeted projects arising in year. May also result in missing assets, assets in disrepair (or beyond useful lives or vendor support) creating asset failures impacting operations (i.e. IT service/reliability), health and safety, emergency buying issues and/or resources going to lower priorities in financial planning processes	Capital planning committee reviews and recommends funding on prioritized basis to approve annual purchases of assets. Committee also ensures key departments have sound asset planning and replacement strategies in place. Asset tags in decentralized systems Delegation of authority - managers approve large purchase, review visa for small purchases	4	3	12	6	Yes	9	÷>	12	12	

			He	eat Map		
	5					
	4	FI14	OP5, HR2, FI1, HR9, ST18	OP16, IE3, FI5	ST17, FI4, IT3	S17
IKELIHOOD	3	ST12, IT8, HR10, FI19, OP1		ST4, EE1, OP4, HR7, LG3, OP14, OP15, OP17, OP6, ST5, EE2, FI11, HR1, FI9, IT9	OP20, OP3, FI18	EE3
	2	IE2	FI8	ST1, EE4, LG1, LG2, FI10, FI13, FI15, OP7	ST9, FI6	OP19
	1				ST6	
		1	2	3	4	5
				ІМРАСТ		

Legend

critical - take action now high risk - action planned moderate - monitor low risk accept

		Q1	Q2	
ST7	New Performance-Based Funding metrics and targets		20	20
ST17	Change in Policy/Legislation		16	16
FI4	Improper forecasting		16	16
IT3	Cyber security/data breach		16	16
EE3	International Activity in India		15	15
OP20	Student trips out of province or abroad	"new"		12
OP3	Capacity for Successfully Completing Large Capital Projects		12	12
FI18	Enrolment Risk		12	12
OP16	Accessible material and accessibility		12	12
IE3	Overlapping/unclear accountabilities		12	12
FI5	Asset Management/Aging Infrastructure		12	12
OP19	Biohazards		10	10
ST4	Welcoming Place for International Students		9	9
EE1	Student Suicide		9	9
OP4	Master Emergency Management Plan		9	9
HR7	Response to Sexual Violence Allegations		9	9
	Management of Student Mental Health Issues (students		5	5
	living on-campus and leased residence buildings off-			
163	campus)		9	9
200			5	5
0.044	Safety for students engaged in on campus activities from		0	0
OP14	athletics to working in labs		9	9
OP15	Animal Welfare		9	9
	Safety for students engaged in activities off campus			
OP17	potentially with the publics involvement		9	9
OP6	Academic Planning Cycle		9	9
ST5	Brand Management		9	9
EE2	Placements		9	9
FI11	International Vendor Procurement and Payments		9	9
HR1	Human Rights of College Employees		9	9
FI9	Capital Project Scope Creep		9	9
IT9	System Integrity		9	9
ST9	Quality Assurance		9	8
OP5	Contract Compliance and Supplier Management		8	8
HR2	Attracting, hiring, developing and retaining top talent.		8	8
FI1	Copyright/intellectual property		8	8
HR9	Academic labour relations		8	8
FI6	Marketing Risk		8	8
	Discontinuing KPI Student Satisfaction and Engagement			
ST18	Surveys		8	8
ST1	New Product Development		6	6
EE4	Student Satisfaction: extreme complaint/conflict		6	6
ST12	Sustainability Climate Action Plan		6	6
IT8	Missed Software upgrade leads to unscheduled service outa	1	6	6
HR10	Support Staff Union Labour Relations		6	6
LG1	Procurement Trade Treaties Implementation and Compliand	C C	6	6
LG2	Mitigating food related illness provided by Food Services		6	6
FI10	Financial Fraud		6	6
FI13	Fundraising Risk		6	6
FI15	Construction Project Cost Over-runs and Delay Claims		6	6
FI19	Insurance Deductibles increase		6	6
OP1	Student Human Rights Complaints to OHRC Tribunal		6	6
OP7	Space Utilization		6	6
FI14	Online (US-based) resources		4	4
FI8	Adequacy of Insurance coverage		4	4
ST6	Organizational Effectiveness		4	4
IE2	Introduction of the Cannabis Act Bill C-45		2	2

	Consequence						
	1	2	3	4	5		
1 Low	Low	Low	Low	Moderate			
2 Low	Low	Moderate	Moderate	Moderate			
3 Low	Moderate	Moderate	High	High			
4 Low	Moderate	High	High	Critical			
5 Moderate	Moderate	High	Critical	Critical			

Likelihood

Likelihood

				Immediate chance of
Assessment	Rating	Description	Indicator	occuring
		expected in		
		most	multiple times	
Very likely	5	circumstances	a year	> 99%
		will probably		
		occur in most		
Likely	4	circumstances	once a year	> 50%
		might occur at	once within 3-	
Possible	3	some time	5 years	> 30%
		could occur		
Unlikely	2	occassionally	within 10 years	< 30%
		may occur in		
		exceptional		
Rare	1	circumstances	within 25 years	<1%

Consequence

				Considera	ations	
Assessment	Rating	Finance	Compliance	People	Reputation	Operations
			Breach resulting	g in:		not inclusive
				Loss of several		
				key leaders	Long -term	
				and/or multiple	wide spread	
				critical staff	media	Complete disruption
			Material	Long term	coverage,	unplanned outage > 2 weeks
			sanctions,	impact on staff	major long-	widespread staff/visitor
Severe	5	> \$3.5 M	fines, penalties	engagement	term impact	safety at risk
				Loss of few key		
				leaders and/or a	Medium -term	
				critical staff	wide spread	widespread disruption
				Medium term	media	unplanned outage > 5 days
			Signifiant	impact on staff	coverage, short-	some staff/visitor safety at
Major	4	> \$1 M	sanctions etc	engagement	term impact	risk
				Loss of one key		
				leader	Short -term	
				Medium term	localized media	minimual disruption
			some	impact staff	coverage, Short-	unplanned outage > 1 day
Moderate	3	~ \$500 K - \$1.0 M	penalties/fines	engagement	term impact	local staff/visitor safety at risk
				Loss of identifed	Medium -term	local disruption
				successor of key	localized media	unplanned outage couple
				leader, miminal	coverage,	hours
			Immaterial	impact staff	medium-term	minimual staff/visitor safety
Minor	2	~ \$100K - \$500K	fines	engagement	impact	at risk
					No media	
				Nominal impact	coverage,	
				staff	minimual	
Insignificant	1	< \$100K	nothing	engagement	impact	no risk

Fleming College



Board of Governors | Briefing Note

Topic:Draft Academic Plan and Consultation SummaryReport To:Public Board MeetingMeeting Date:November 27th, 2019Prepared By:Tom Phillips

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College receive for information, the draft Academic Plan for implementation 2019-2024.

Overview

Immediately following the approval of the Strategic Plan the development of an Academic Plan began. The Academic Plan has been designed to ensure that the commitments of the Strategic Plan will be realized in the academic activities of the College.

Consultations, in many different forms, were undertaken between June 17th and November 8th . The information received in these consultations was invaluable in the plan's development. This plan has been cross-referenced with the Strategic Plan, the mandates that came out of the Strategic Plan, and the requirements of the third Strategic Mandate Agreement. This cross-referencing has ensured that no aspect of the transformational path the College as embarked upon has been overlooked. To ensure that the actions necessary to complete this plan are undertaken, specific responsibilities will be distributed across the senior and academic teams. Ultimately, this plan will set the foundation upon which our faculty and academic support can serve the needs of our students and our communities.

Alignment with Strategic Direction

The Academic Plan has been built to align and support all areas of the Strategic Plan.

Risks and Considerations

External Environment	🛛 Internal	Environment 🛛 Fina	ancial 🛛 Human	Resources
Information Technology	🗌 Legal	🛛 Operational	🖂 Strategic	🗌 N/A

Supporting Documentation

- Draft Academic Plan
- Consultation Summary



Putting Jobs First

Academic Plan 2019-2024 (Draft November 14, 2019)

ACADEMIC PLAN 2019-2024

Fleming College

An Academic Plan that Puts Jobs First for Students, Communities and the Economy

Putting Jobs First is a five-year Academic Plan that, I believe, will help deliver economic growth and well-being to students, the communities we serve, and beyond.

A long-time resident of Peterborough, now the fastest growing city in Canada, I have returned to Fleming College as Vice President Academic Experience, charged with preparing students for a world that is so fastmoving we can't predict the jobs of the future. I have spent 30 years in post-secondary education, most recently at Trent University. Fleming is where I began.

My mandate is also to ensure the four communities we serve – Peterborough, Lindsay, Haliburton and Cobourg – are thriving; fuelled economically and socially with talent empowered with the innovative education, research and real-world experiences they need to build better lives, better communities and a better world.

When I was first at Fleming as a professor, I taught DOS, the first computer operating system that required even casual users to understand complicated codes just to do a search.

Flash forward to 2019, and the digital revolution and AI has brought us cars that drive themselves, watches that predict the onset of a heart attack, and drones that deliver mail.

Fleming wants to be part of – ahead of even - the new economy. From my perspective as an academic and an economist, we are well-positioned to be partners in the fast-moving future.

Our commitment is to deliver an Academic Plan that responds to the needs of the labour market by ensuring students have the skills and experience they need and delivering programs that are relevant to the evolving economy.

We acknowledge we are providing this service to students, communities and the province on the traditional lands of the Anishinaabe and Mississauga Peoples, and the Academic Plan seeks to strengthen relationships with Indigenous Peoples now and in future.

Tom Phillips Vice President Academic Experience

An Academic Plan To Support Fleming's Mission

Putting Jobs First is a roadmap that will guide the Academic Plan for Fleming and reflects the ambitions and commitments of Fleming's five-year Strategic Plan announced in June 2019 by President Maureen Adamson

and Board Chair Dan Marinigh. *Our Fleming. Our Future* charts a path for dynamic change over the next five years and articulates our new mission, vision and values.

Our Mission: To empower our students with the innovative education, research and real-world experiences they need to build better lives, better communities and a better world.

Our Vision: Creating prosperity and transforming communities through education and innovation.

Our Values: Responsiveness-Innovation-Collaboration-Inclusiveness-Accountability

Our Strategic Priorities:

The *Putting Jobs First* Academic Plan identifies six strategic directions and 32 actions that will be implemented over the life of the plan. The Academic Plan will be phased in, with some tactics given priority as we stay in step with the accelerated pace of global change. A timeline attached to each action indicates in dark green when it will begin, and in lighter shades of green when it will be functioning, and by when that priority will be entrenched.

This is a plan to benefit students, our communities and the province, and so it reflects ideas and input gathered from Fleming faculty, students and staff, and also industry and other members of our region which we gathered during consultations across Fleming's campuses. Outreach was essential in formulating the plan, with internal and external stakeholders given multiple opportunities to provide comment on Fleming's academic direction through a series of Town Halls, one-on-one meetings, special gatherings, and an online survey. Response was unprecedented, with thousands of people touched, and 670 responses received to the survey alone.

Fleming shares the Ontario government's desire to build a thriving economy by ensuring graduates have the skills employers need. Our blueprint identifies strategies to ensure the College has a strong economic impact. Indeed, Fleming seeks to be the go-to-institution for quality new and future-oriented education for our community, Ontario and beyond.

Successful implementation of Fleming's academic mission will require integrated planning across college services including Human Resources, Advancement, Recruitment, IT, Research and Registration, and a good working relationship with our unions. In some cases, the actions described will be implemented with the leadership and support of other senior leaders at the College, including the Vice President Student Experience, the Vice President Organizational Effectiveness & Human Resources, the Vice President Applied Research & Innovation, the Vice President Economic & Community Development, the Registrar, the Chief Technology Officer and the Vice President Corporate Services. Roles and responsibilities related to each action are clearly identified in the plan, and a comprehensive Action Plan to more specifically guide implementation of the Academic Plan has also been developed.

The Academic Plan will require changes to how we operate, including academic re-organization, timetables to support teaching and learning, space and facilities to support engagement, advances in teaching and learning technologies and rebranding of our Schools so that they are more easily identified as part of the Fleming community.

Putting Jobs First identifies the following Strategic Priorities for 2019-2024:

- Responding to the Needs of the Labour Market
- Ensuring Students Have the Skills, Experience & Support They Need
- Delivering Programs that are Relevant
- Sustainability through Strategic Enrolment Management
- Providing a Top-Quality Education
- Revitalizing & Engaging our Faculty for a Modern Education

Priority 1: Responding to the Needs of the Labour Market:

The nature of work is changing rapidly as technological disruptions fundamentally alter the economy and the kind of talent Canada needs to compete. Post-secondary institutions and faculty must step up to prepare students for a world that is constantly evolving, and to provide employers with graduates who have the skills needed for jobs of today and the future. To ensure Fleming has its finger on the pulse of the labour market, our Academic Plan is committed to deepening our understanding of employer needs by applying a new rigour to our Job Market Analytics, establishing a deeper partnership with industry and our communities, and matching the culture of innovation and entrepreneurship of the modern workplace by embedding that spirit and knowledge into our academic programing.

1. Action: Establish a Fleming Jobs Council

The College will identify and bring together a network of employers from each of the four geographical regions we serve, including employers in rural and urban Indigenous communities, to act as program advisors and share current market trends, to ensure the Academic Plan is current and responsive as the demands of the local, provincial and global labour market shift. The Jobs Council will advance the revitalization of our Program Advisory Committees (PACs) through transferring knowledge and informed analysis relevant to the future economy.

l'imeline:							
Y1	Y2	Y3	Y4	Y5			

Lead: Vice President Academic Experience Supported by: Academic Project Manager, Workforce & Labour Market Advisor

2. Action: Understand the Job Market

The College will establish an effective and robust system for collecting and sharing Labour Market Analytics, informed by the new Workforce and Labour Market Advisor, supported by staff, and with input from faculty and industry representatives on our Program Advisory Committees. Labour market profiles will be created for all programs and updated regularly so that evidence-based data and projections guide programing, ensuring it is

always relevant to the job market and anticipates change. Through our analysis, we will seek to understand training requirements for Indigenous communities and how to increase participation of Indigenous peoples in the workforce.

	Time	eline:		
Y1	Y2	Y3	Y4	Y5

Lead: Workforce & Labour Market Advisor

3. Action: Empower our Program Advisory Committees

The College will invigorate our PACs, with a new name and a new more activist mandate. The new Workforce Program Advisory Committees (Workforce PACs) will bring together industry leaders who can ensure the latest trends in their fields are reflected in student learning, by sharing ideas at meetings, participating in applied projects and interacting with students and faculty so that each understands how industries are evolving as well as employer expectations.

Timeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Academic Experience

Supported by: Deans, Chairs, Program Advisors, Academic Project Manager

4. Action: Partner with Industry to Help Ensure their Success:

The College recognizes that industry is evolving to meet the challenges of the transforming economy and will create a Partner Business Development Strategy in conjunction with community partners including those in Economic Development to ensure we are meeting training and professional development needs of firms and services in Ontario, Canada and beyond. Seeking out opportunities to partner with businesses and the social services sector, and to provide Applied Research and targeted Academic Upgrading will ensure the College and its faculty and students are evolving and keeping up with industry trends, and provide a new revenue stream.

Timeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Academic Experience Supported by: Vice President Economic & Community Development

5. Action: Seek Out Special Projects

The College will to seek out and step-up engagement in special projects and initiatives, including with government of all levels and Indigenous communities, to ensure we are helping to meet pressing priorities in areas where we can play a role. This includes but is not limited to providing education and skills to job seekers at all stages of their careers and Applied Research projects where students and faculty can engage in issues that matter most to Canadians.

Timeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Academic Experience

Supported by: Vice President Student Experience, Vice President Applied Research & Innovation

6. Action: Create a Culture of Innovation, Entrepreneurship & Intrapreneurship

The College and its faculty understand that as the economy transforms employers are looking for employees who bring new ideas and embody an innovative approach to work. At the same time, those seeking to play a role in the job market are increasingly starting their own businesses, employing themselves and in some cases others. Fleming commits to embedding the spirit of and knowledge about innovation, entrepreneurship and intrapreneurship into programs across all disciplines.

Timeline:



Lead: Vice President Academic Experience Supported by: Dean of Business

Priority 2: Ensuring Students Have the Skills & Experience They Need

The data tells us that students who have hands-on training fare better in the job market. Fleming's Academic Plan is committed to ensuring every student has at least one experiential learning opportunity including co-ops, internships, apprenticeships and Applied Research activities in their fields. To ensure they are job-ready, Fleming will upgrade the technology and equipment students use to learn to ensure it is compatible with the technology students will use at work. Faculty will further develop student success by ensuring they have the so-called soft skills, such as communication, mathematics, innovative problem solving and team building, employers tell us are in demand. It is also essential that they chose programs that match their career goals, and that they understand the expectation of employers in the workplace. To deepen our understanding of why some students drop out or struggle to enter the workforce, and to improve graduation rates, employment rates and the proportion of graduates employed full-time in their fields, we will supplement the work of faculty in this area by advancing our career and Employment Services, and ensure non-academic supports are in place to help anyone needing it.

7. Action: Create a Student-Employers Partnerships Network to boost Experiential Learning

The College will bring together students and employers to ensure every student receives at least one experiential learning opportunity before graduation and continue to increase those experiences over time. Working with faculty who are at the heart of student success, we will restructure our Employment Services system and use technology to measure experiential learning across the curriculum and generate a student transcript of real-life experience to assist students in their job search. Of particular note will be efforts to support students from Indigenous populations who face many transitions and systemic barriers in seeking employment.

Timeline:

Y1	Y2	Y3	Y4	Y5	
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Lead: Vice President Student Experience

Supported by: Vice President Academic Experience, Vice President Applied Research & Innovation, and other Senior Management Team members where appropriate.

8. Action: Expand Student Involvement in Applied Research

The College will develop a five-year strategy to embed students in Applied Research opportunities including applied projects occurring in all Fleming programs. This will help ensure students receive hands-on experience in research projects reflective of innovations in their fields, and that they are contributing to Canada's research and innovation agenda.

Timeline:						
Y1	Y2	Y3	Y4	Y5		

Lead: Vice President Applied Research & Innovation Supported by: Vice President Economic and Community Development, Vice President Academic Experience

9. Action: Ensure Students Have Access to Modern Technology

The College's new Tech Development Centre will review current technology available to staff and students, and develop a strategy to upgrade out-dated systems, platforms for student interface in services, modern equipment and learning simulations. We will consult with faculty to ensure they have the staff support and resources they need to advance digital

learning opportunities for students and expose them to technology that mirrors what they will be expected to use in the workplace.

Timeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Academic Experience

Supported by: Chief Technology Officer, Vice President Corporate Services, Registrar

10. Action: Establish a Student Success Strategy

The College will assist the work of faculty and support staff in achieving higher retention and graduation rates by using innovative technology solutions to aid students. Support services will be designed to help Indigenous and international students, high-school students, job-seekers, and employees seeking to return to college in order to participate in the workforce or progress in or change careers. Student success advisors will be put in place to guide struggling students toward appropriate faculty or staff who can take action on appropriate intervention strategies, at the right time and in the right place.



Lead: Vice President Student Experience

Supported by: Vice President Academic Experience, Director Project Management & Institutional Research Officers, Registrar

11. Action: Increase Employment Rates for Graduates

The College will build on faculty understanding of student needs including why students drop out or fail to find employment after graduation, and draw on current job market data, to build on student success in the workplace regardless of entry point.



Lead: Vice President Academic Experience

Supported by: Vice President Student Experience, Employment Services, Institutional Planning, Workforce & Labour Market Analyst

12. Action: Ensuring Students Acquire the Soft Skills Employers Value

The College will ensure students, regardless of which program they are enrolled in, graduate with the right mix of skills required for the modern economy, including soft skills such as communication, innovative problem-solving and team-work employers tell us they value. A new General Education Policy will be implemented to ensure proficiency in skills such as writing, communications and math, and we will ensure soft skills and cultural competencies are clearly defined and taught across the curriculum.

Timeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Academic Experience Supported by: Deans of each School

13. Action: Expand Employment Services

The College will support the work of faculty in increasing graduation and employment rates by invigorating our Employment Services, ensuring students are prepared for the workforce with practical knowledge of how to build a portfolio, how to prepare a resume, how to search for employment, and appropriate conduct in an interview and in the workplace. Through a closer relationship to employers and with the use of job-matching technology, the College will provide students with a stronger connection to available jobs.

Timeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Student Experience Supported by: Vice President Academic Experience

14. Action: Incorporating Indigenous Perspectives

The College will 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. Indigenous knowledge will be introduced into the curriculum of all programs through various forms of delivery and Indigenous perspectives incorporated where applicable as part of future academic policies and procedures.

Timeline:						
Y1	Y2	Y3	Y4	Y5		

Lead: Vice President Academic Experience Supported by: Academic Chair, Indigenous Perspectives; Dean of General Arts and Science

Priority 3: Delivering Programs That are Relevant

Fleming's commitment is to focus on the needs of students and employers in the labour market so that we can be true partners in the economic and social growth of our communities. This means that we must ensure we are providing programs and training that will lead to the jobs that are in demand. To do this, Fleming's Academic Plan prioritizes the review of programs and skills training for learners coming to college out of high school, those who have had a gap in their journey and adults seeking lifelong learning and upskilling. In this way, the College will ensure we are contributing to the regional and provincial economy by connecting graduates to jobs and employers to talent. Where possible, we will encompass a global perspective into our programs to ensure our graduates are ready to help Ontario compete on the world stage. We will focus on sectors we know are in demand, and relevant to our region including community health, safety, and well-being. Our programs will align with sectors and industries forecast to be emerging, for example agriculture, sensor technology, business programs such as project and supply chain management, business innovation, and environment and health. We seek to create a Centre of Excellence for Fleming as part of our role in the system of colleges in Ontario.

15. Action: Labour-Market Responsive Programs

The College will review all current programs and through the new Academic Plan introduce new programs to meet the needs of the economy, while refocusing or moving out of those that do not. Each academic year, a set of programs will be reviewed and adjustments made in real time so that all programs lead to a job even as demands of the labour market change.

Timeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Academic Experience Supported by: Workforce & Labour Market Analyst

16. Action: Enhancing Pathways

The College will enhance pathways and transition support for students transferring from other 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.

Timeline:



Lead: Vice President Academic Experience

Supported by: Registrar; Director of Academic Quality, Planning & Operations

17. Action: Preparing Students for Jobs through Advanced Skills Training

The College will pilot advanced apprenticeship programs modeled after those delivered in Europe and elsewhere and tailored for Fleming to increase the ability of graduates to transition successfully into jobs by dividing their learning time between the classroom and the workplace in an integrated way.

l'imeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Academic Experience Supported by: Dean of Trades & Technology

18. Action: Fostering Lifelong Learning

The College will transform its Continuing Education programs to ensure they mirror workplace needs to ensure adult learners seeking to retrain and upskill find the help they need at times and through delivery models that make sense given competing demands on their time. New opportunities will be provided for College employees to enrol in short-term programs to refresh credentials and certificates. Continuing Education courses will be offered for students who need more time to complete programs.

limeline:					
Y1	Y2	Y3	Y4	Y5	

Lead: Vice President Academic Experience

Supported by: Deans, Vice President Student Experience, Workforce and Labour Market Analyst

19. Action: Expanding Digital Learning

The College will embrace modern use of digital technologies to ensure more students locally and in remote and rural areas including Indigenous communities, or those who prefer to learn online and on their own schedules have access to a quality education through a renewed approach to Digital Learning. The capacity and capability to use Digital Learning as a professional development tool is transferable as job demands, knowledge and geographical locations change throughout a career. Supports will be provided to faculty and students who need help to succeed using new teaching and learning technologies.

Timeline:							
Y1	Y2	Y3	Y4	Y5			

Lead: Vice President Academic Experience

Supported by: Director of Academic Quality, Planning & Operations; Digital Learning Advisor; Academic Chair, Indigenous Perspectives

Priority 4: Sustainability through Strategic Enrolment Management

As Canada's population ages, the proportion of school-age children is in decline, requiring post-secondary institutions to diversify their enrolment base to ensure sustainability in order to make an impact on the economic and social vitality of their communities. At the same time, Peterborough is the fastest-growing city in Canada, supported in part by commuters and new Canadians, and the economy in our four communities is transforming from manufacturing to industrial, tech and service. Through our Academic Plan, Fleming will implement Strategic Enrolment Management while maintaining our commitment to access to ensure the College enhances student recruitment and retention, and creates a welcoming environment for all. The Strategic Enrolment Management plan will ensure we enrol a mix of students who

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will benefit from our programs, focus on quality and achievement, and benefit from an enhanced student experience.

20. Action: Achieving the Optimum Enrolment Mix

The College will implement strategies to increase enrolment even as the proportion of domestic school-age students declines. At the same time, we will ensure the Academic Plan attracts a mix of students who will help achieve Fleming's commitment to provide education and skills training to students at all stages of their lives, from diverse demographic groups, diverse geographic regions and a diverse set of countries internationally. We will not lose sight of our commitment to be culturally aware, while being financially sustainable and helping to grow the economy.

Timeline:							
Y1	Y2	Y3	Y4	Y5			

Lead: Vice President Academic Experience

Supported by: Vice President Economic & Community Development; Registrar; Director Project Management Office & Institutional Research; Workforce & Labour Market Analyst

21. Action: Attracting Domestic, International & Indigenous Learners

The College will seek to welcome all students – domestic, international and Indigenous – by creating programs and supports within the Academic Plan to further increase participation of all groups of students, developing programs and supports relevant to students in our region, elsewhere in Canada, Indigenous learners and students from overseas.



Lead: Vice President Academic Experience Supported by: Vice President Student Experience

22. Action: Diversifying Program Types

The College will meet the five commitments in its 2019-2024 Strategic Plan by implementing an Academic Plan with a mix of program types, including relevant subject matter, full-time/part-time schedules, delivered at a variety of times and through a variety of mechanisms as we seek to help our students, communities and the province thrive.

l'imeline:							
Y1	Y2	Y3	Y4	Y5			

Lead: Vice President Academic Experience

23. Action: Ensure We Are a Welcoming Place for All

The College will align its resources across all functions and services to enhance accessibility and inclusiveness and to encourage the development of a diverse population of students and academic, administrative and support staff. Cultural competencies will be incorporated into curriculum and non-academic programing as well as professional development for staff, so that all feel supported and can learn from each other's experiences and perspectives.



Y1 Y2 Y3 Y4 Y5

Lead: Vice President Academic Experience

Supported by: Vice President Economic and Community Development, Vice President Student Experience, Registrar, Vice President Organizational Effectiveness and Human Resources

24. Action: Strategic Enrolment Management

The College will ensure operational sustainability by creating a coordinated framework for enhancing student recruitment, conversion, retention and the student experience, allowing us to admit students who will benefit from our programs, to focus on quality and quantity and to improve engagement with students. A long-term enrolment growth plan will be

developed, including a strategy to ensure International students are attracted to Fleming from a more diverse set of countries.

Timeline:							
Y1	Y2	Y3	Y4	Y5			

Lead: Vice President Academic Experience

Supported by: Registrar, Vice President Economic & Community Development

Priority 5: Providing a Top-Quality Education

Students seeking to gain the education, skills and experience they need to enter and keep up in the job market in these fast-moving times should feel certain that their post-secondary education is first-class. Fleming, which follows the framework for quality guidelines set out by the Ontario College Quality Assurance Service, seeks to ensure the education and services it provides are top quality. In order to ensure continuous improvement, the Academic Plan commits to ensuring quality standards are met in the programs we offer through a rigorous program review and assessment process. We are also committed to ensuring students are equipped for the job market by implementing strategies to motivate them and recognize their achievements. We will reflect the technology used in the workplace whether provided in-College or in-workplace for training and skills development and continue to provide those participating in the workforce with the upskilling they need as the nature of work evolves.

25. Action: Rigorous Review and Assessment of Programs

The College will ensure our programs are always of the highest quality and have an emphasis on labour market relevance by implementing a continuous and formal process of evaluating, measuring and documenting educational effectiveness. We will review the current quality assurance process to ensure effectiveness and strengthen areas needed to meet the commitments of Fleming's Strategic Plan and obligations within the Strategic Mandate Agreements negotiated with the Province.

Limelii	ne:			
Y1	Y2	Y3	Y4	Y5

Lead: Vice President Academic Experience Supported by: Director of Academic Quality, Planning & Operations

26. Action: Advancing Learning Technologies

The college will advance the integration of modern learning technologies into all learning environments and experiences, whether in-person, online or a hybrid delivery mode, as we leverage the Technology Development Centre to meet the College's commitment to use technology and digital tools to enhance access and engagement in learning. We will ensure professional development of staff, as well as technical supports, so that they may use learning technology effectively in teaching and learning environments.



Lead: Vice President Academic Experience

Supported by: Vice President Organizational Effectiveness & Human Resources; Chief Technology Officer, Digital Learning Advisor

27. Action: Micro-credentials and laddering

The College will develop new ways to ensure all students receive a quality education by developing strategies to recognize their achievements including micro-credentialing, laddering and badging which can lead to College certificates, diplomas and graduate certificates. This is particularly useful in supporting those who may be struggling or those who need fast turnaround and recognition on their progress.

Timeli	ne:			
Y1	Y2	Y3	Y4	Y5

Lead: Vice President Academic Experience Supported by: Deans of each School

Priority 6: Revitalizing and Engaging Faculty for a Modern Education

Meeting the objectives of Fleming's 2019-2024 Strategic Plan will require a revitalized faculty equipped to provide the modern education participants in our evolving economy demand. Through the Strategic Plan, the College will ensure we have the right mix of full and part-time staff from diverse backgrounds, and with relevant expertise. Those who are teaching our students must be skilled in the latest proven methods of teaching and learning, in how to foster innovation, and contributing to the academic mission through expanded professional development opportunities and contributions through a purpose-built Academic Council. Fleming is committed to ensuring faculty and staff have the resources they need so they are empowered and students feel supported and engaged with staff in a teaching and learning environment that fosters close relationships.

28. Action: Empowering the Academic Council

The College will pursue a new strategy for faculty engagement and decision-making around academic planning that would include reorganizing the Academic Council so that it has greater opportunity for critical discussion and influence on academic decision-making. We will draw on successful attributes of similar unicameral systems of governance that have been effective at other leading academic institutions in Canada.

Timeline:



Lead: Vice President Academic Experience

29. Action: Embracing a Continuous Professional Learning Culture

The College will seek to meet Fleming's commitment to empower our staff by providing continuous learning opportunities and access to the latest teaching and learning techniques through Common Block Professional Development. To meet needs articulated by faculty, professional development will be provided at the macro level within and between Schools, beginning with block development in May-June 2020 for all Schools. This will be supplemented by individual professional development, including in Applied Research, at the micro level.



Lead: Vice President Academic Experience

Supported by: Vice President Organizational Effectiveness & Human Resources

30. Action: Optimizing and Expanding Teaching Complement

The College will seek to expand its teaching complement and find employees with the right mix of subject matter knowledge as well as an appropriate mix of full- and part-time staff in order to ensure students at all stages of their lives are learning from faculty with the right skills, currency and expertise.



Lead: Vice President Academic Experience

Supported by: Vice President Organizational Effectiveness & Human Resources

Fleming Academic Plan 2019-2024

Consultations Summary

November 11, 2019

Background:

Consultations for the 2019-2024 Academic Plan were held from June 17 until Nov. 8, 2019. The outreach was extensive, with multiple audiences touched and responsive using multiple methods of soliciting feedback over the five-month consultation period.

Audiences included:

- All staff, at all Campuses
- President
- Chairs and Deans
- SMT
- Staff and Faculty
- Academic Council
- Union representatives (faculty and staff)
- Students
- Industry through PACs
- Indigenous community representatives

Tactics:

Audiences were invited to provide input in two phases: 1. The Consultation Phase and 2. The Public Review Phase.

As a result, several stakeholders were given multiple opportunities to provide comment on direction and content.

Multiple tactics were used to solicit feedback and engage audiences including:

- Town Halls
- In-person consultations by the VPAE at special group meetings across all campuses
- A special evening meeting of PACs
- One-on-one 'Tea with Tom' sessions
- An online survey that included qualitative and quantitative questions
- A series of one-on-one interviews by Tom with key audiences focused on the Draft Academic Plan, and
- An invitation for the entire Fleming community to comment on the Draft Academic Plan by email.

Scheduled Consultations and Outreach included:

Date	Time	Location	Audience Type
Consultations			
Phase			
JUNE 17			CONSULTATION SESSION – JCD
JUNE 19			CONSULTATION SESSION - HEALTH & WELLNESS
JUNE 19			CONSULTATION SESSION - BUSINESS/TRADES
JUNE 21			COORDINATORS MEETING – SENRS
JUNE 21			CONSULTATION SESSION - – SENRS
JULY-AUG			1:1 MEETINGS WITH FACULTY
SEPT.			1:1 SESSIONS WITH VPS/SMT/DIRECTORS
SEPT. 12	6pm-		PROGRAM MEETING WITH SSW AND MHA
	6:30pm		
SEPI. 16	3pm -		JOINT SCHOOL MEETING JCD / H&W
SEDT 18	4µ11 0·30am -	B3330	CONSULTATION SESSION - DEANS & CHAIRS ALL
JEI 1. 10	11am	03330	SCHOOLS
SEPT 19	12nm -	FR 250	CONSULATION SESSION – ALL STAFE SENRS
5211.15	1pm	111250	CONSCIENTION SESSION ALL STATT SERVIS
SEPT. 23	10am -	Great	CONSULTATION SESSION – ALL STAFF
	11am	Hall	HALIBURTON
SEPT. 23	3pm -	B3100	CONSULTATION SESSION – ALL STAFF
	4pm		SUTHERLAND
SEPT. 30	3pm -	D1129.3	CONSULTATION SESSION – ALL STUDENTS
	4pm		SUTHERLAND
SEPT. 30	7pm -	D1129	CONSULTATION SESSION *EVENING* – PAC
	8:30pm		
OCT. 1	5:30pm	B3310	CONSULTATION SESSION *EVENING* –
	–6:30pm		STUDENTS
OCT. 10	12pm - 1pm	FR 280	CONSULTATION SESSION – STUDENTS FROST
Public			
Review			
Phase			
SMT	Nov. 12		Tom presentation of Draft Plan, discussion
Deans &	Nov. 7		Tom presentation of Draft Plan, discussion
Chairs			
Academic	Oct. 31		Tom presentation of Draft Plan, discussion
Council			
PACS	Oct. 29		Email soliciting input on Draft Plan
Faculty union	Oct. 29		Email soliciting one-on-one meeting on Draft
Support staff	0.0+ 20		Midil Empil coliciting one on one meeting on Droft
union	001.29		Plan

Indigenous	Oct. 29	Email soliciting one-on-one meeting on Draf	ft
Community		Plan	
General	Oct. 29	Email soliciting one-on-one meeting on Draf	ft
Public		Plan	
President	Nov. 11	Meeting at Academic Club	
Online survey	Oct. 18-	Web-based survey sent to all students and s	staff,
	Oct. 30	as well as PAC members.	
Board of	Nov. 27	Board invited to comment on the Draft Plan	, ا
Governors		which has been confirmed by the Fleming	
		community	

Following the initial Consultation Phase, input on the identified themes was used to inform an early draft of the Academic Plan, including a series of priorities and actions required to achieve those priorities. Additional ideas for how to achieve the priorities were incorporated into an Action Plan that is in development and will be used to support the Academic Plan.

The Draft Academic Plan was then shared with the Fleming community for Public Review and comment. Key stakeholders were also invited to one-on-one sessions with the AVPE to provide input.

Conclusions:

The online survey sent to students, staff and PACs had a response rate of 215, 316 and 136 respectively. There was general agreement between students and staff in assessment of the areas surveyed. No surprising issues emerged as a result of the responses. PAC responses to their own set of questions were in alignment with input provided at the in-person consultation. Many of the student responses to the openended questions will be of value to the VPSE.

The survey of staff and students confirmed the direction of the Academic Plan. For example:

- 38% disagree or strongly disagree that the current program offerings demonstrate high academic quality. The academic plan prioritizes quality.
- 39% disagree or strongly disagree that there are sufficient flexible delivery opportunities. The academic plan addresses this.
- 35% feel employees and students are not equipped with appropriate technologies. The academic plan addresses this.
- 77% of respondents think you are offering programs of interest to students. The percentage who feel programs are meeting the needs of employers is a little lower at 56%. This is addressed that prominently in the Academic Plan.

• 19% disagree or strongly disagree that Experiential Learning is sufficient. This is addressed in the academic plan.

Top-line Recommendations:

The Fleming community has asked the VPAE to:

- Increase student and graduate proficiency in soft skills such as communication, professional behaviour, mathematics and critical thinking
- Increase student employment rates by increasing their skills in job interviews, resume writing and their ability to articulate their skills
- Conduct regular reviews of programs to ensure they are relevant, and drop those that are not
- Be more vigilant in early identification and intervention for students who are struggling
- Invigorate the mandate and impact of PACs, with more frequent meetings, more sharing of best practices, whole group participation, interaction with students, draw on their expertise to anticipate labour market trends and inform programing
- Increase our understanding of the labour market through data collection and communication and relationship building with employers
- Provide more Professional Development for faculty, and ensure they are supported in using modern learning technologies.
- Re-organize the Academic Council to increase frequency of meetings, update membership and roles, create a clear critical path for decision making, shift focus to teaching and learning, and increase action taking
- Improve outreach to employers in the private and public sectors and be proactive in understanding their needs to ensure they are aware of opportunities for training and research, ensure scheduling and use of technology matches for their needs
- Prepare students for jobs by expanding the definition of Experiential Learning, increasing Experiential Learning that is job relevant, and expanding options like simulations
- Develop an Applied Research strategy that will embed it in student learning, while ensuring adequate faculty supports including a system to identify opportunities with industry, credit within program review for success, grants to finance opportunities and adequate lab and research space
- Improve employment rates for students by offering more micro-credentials to encourage success and helping them to develop a portfolio to demonstrate their skills to employers
- Improve supports for International students, including helping them choose the right course, encouraging employers to provide experiential learning opportunities, offering micro-credentials in language and professional behaviour instruction, more help integrating into the community, more social opportunities
- More diversity within staff, faculty and administration to correspondent with the increasingly diverse student population
- Ensure staff and students are equipped with the appropriate technologies to do their work. Use digital tools more creatively i.e. Podcasts for employees when something changes in their field
- Ensure we are providing opportunities for Indigenous students, and that they are culturally appropriate
- Provide more nimble Continuing Education programs that are labour market responsive, delivered using a variety of digital tools, at times that are convenient for students and in conjunction with work life

- Encourage a balanced mix of Part-Time and Full-Time faculty to ensure programs are being led by faculty and staff who have the latest knowledge in their fields
- Ensure high academic standards
- Incorporate a global perspective into curriculum, programs, staff and recruitment
- Ensure more flexible delivery methods (i.e. compressed, accelerated, part-time and evening programs, relevant general interest, and professional development programming)
- Ensure the college is a welcoming place for all including international students, and those living with disabilities and those from under-represented and under-serviced groups

31. Action: Building on a Culture of Engagement with Students

The College will seek to ensure students are supported through regular engagement and interaction with staff by building into the Academic Plan actions that support a teaching and learning culture and environment that fosters close relationships and mentoring including through Applied Research projects, development of soft skills, and job-seeking preparation.

linenie.							
Y1	Y2	Y3	Y4	Y5			

Lead: Vice President Academic Experience

Supported by: Vice President Organizational Effectiveness & Human Resources

32. Action: Ensuring Faculty Diversity and Inclusion

The College will seek to ensure Fleming is a welcoming place for all, by ensuring the employee composition reflects the diversity and inclusion across our communities.

Timeli	ne:			
Y1	Y2	Y3	Y4	Y5

Lead: Vice President Academic Experience

Supported by: Vice President Organizational Effectiveness & Human Resources, Vice President of Student Experience

Measuring Success and Implementation:

To support the launch and ongoing implementation of the Academic Plan, School and Division leadership will work with the Project Management and Institutional Research Office to develop meaningful metrics and performance indicators to help the College measure progress in meeting the Plan's six priorities and 32 supporting actions.

The metrics will allow for a phased approach to implementation of the plan over its five-year timeframe, as well as flexibility in adjusting strategies as circumstances evolve.

Progress will be reported regularly by individual units. Updates on progress of the overall plan will be provided to the Board.

Important to the successful implementation of the Academic Plan will be internal leadership and engagement with staff. Several new Deans are joining the College, and this provides an opportunity to incorporate the Academic Plan and its commitments into the College's Divisional Planning Processes. The priorities and actions of the Academic Plan will be reflected in the performance management system, ensuring together they contribute to successfully achieving the overall mission, vision and values of the College as articulated in the 2019-2024 Strategic Plan, *Our Fleming. Our Future.* https://flemingcollege.ca/strategicplan2019

Fall 2019 Target and Enrolment to Target Update November 2019 Board Meeting

Targets for Fall 2019

	Fall 2019 Targets				
School	Intl Target	Dom Target	Total Target		
School of Business	623	540	1163		
Environmental & NR Sciences	261	1364	1625		
General Arts & Sciences	3	190	193		
Haliburton School of the Arts	0	186	186		
Health & Wellness	168	861	1029		
Justice & Community Development	95	1197	1292		
Trades & Technology	473	849	1322		
Total	1623	5187	6810		

Expected Enrolment in August, 2019

	Fall 2019 up to Day 10						
School	Intl Target	Intl Reg	Dom Target	Dom Reg	Total Target	Total Reg	Registered to Target %
School of Business	623	651	540	380	1163	1031	-11.35%
Environmental & NR Sciences	261	325	1364	1346	1625	1671	2.83%
General Arts & Sciences	3	6	190	167	193	173	-10.36%
Haliburton School of the Arts	0	7	186	178	186	185	-0.54%
Health & Wellness	168	233	861	802	1029	1035	0.58%
Justice & Community Development	95	217	1197	1064	1292	1281	-0.85%
Trades & Technology	473	497	849	666	1322	1163	-12.03%
Total	1623	1936	5187	4603	6810	6539	-3.98%

Enrolment at Day 10*

	Fall 2019 (Day 10)						
School	Intl Target	Intl Reg	Dom Target	Dom Reg	Total Target	Total Reg	Registered to Target %
School of Business	623	647	540	374	1163	1021	-12.21%
Environmental & NR Sciences	261	321	1364	1345	1625	1666	2.52%
General Arts & Sciences	3	6	190	163	193	169	-12.44%
Haliburton School of the Arts	0	7	186	173	186	180	-3.23%
Health & Wellness	168	228	861	782	1029	1010	-1.85%
Justice & Community Development	95	210	1197	1041	1292	1251	-3.17%
Trades & Technology	473	490	849	646	1322	1136	-14.07%
Total	1623	1909	5187	4524	6810	6433	-5.54%

* Day 10 is the last day that students can add/drop or withdraw completely and get a full refund

Enrolment After Day 10 **

	Fall 2019 (As of Nov 4)						
School	Intl Target	Intl Reg	Dom Target	Dom Reg	Total Target	Total Reg	Registered to Target %
School of Business	623	628	540	344	1163	972	-16.42%
Environmental & NR Sciences	261	316	1364	1274	1625	1590	-2.15%
General Arts & Sciences	3	5	190	158	193	163	-15.54%
Haliburton School of the Arts	0	7	186	170	186	177	-4.84%
Health & Wellness	168	225	861	736	1029	961	-6.61%
Justice & Community Development	95	207	1197	1007	1292	1214	-6.04%
Trades & Technology	473	486	849	617	1322	1103	-16.57%
Total	1623	1874	5187	4306	6810	6180	-9.25%

** Students who withdraw after 'Day 10' are not eligible for a refund

Total Withdrawals as of November 4, 2019

School	Reg. before 'Day 10'	Enrol. At 'Day 10'	Enrol. as of Nov 4	Total Withdrawals
School of Business	1031	1021	972	59
Environmental & NR Sciences	1671	1666	1590	81
General Arts & Sciences	173	169	163	10
Haliburton School of the Arts	185	180	177	8
Health & Wellness	1035	1010	961	74
Justice & Community Development	1281	1251	1214	67
Trades & Technology	1163	1136	1103	60
Total	6539	6433	6180	359

Withdrawals by Domestic and International Students

	WD up 1	to day 10	WD as of 4		
School	Intl Day 10 WD	Dom Day 10 WD	Int Post Day 10 WD	Dom Post Day 10 WD	Totals
School of Business	4	6	19	30	59
Environmental & NR Sciences	4	1	5	71	81
General Arts & Sciences	0	4	1	5	10
Haliburton School of the Arts	0	5	0	3	8
Health & Wellness	5	20	0	46	74
Justice & Community Development	7	23	3	34	67
Trades & Technology	7	20	4	29	60
Total	27	79	35	218	359

Respectfully Submitted By, Roni Srdic Registrar

November 4, 2019



Board of Governors | Briefing Note

Topic:	Executive Suite Update and Refresh - Project Overview
Report To:	In-Camera Board Meeting
Meeting Date:	November 27, 2019
Prepared By:	Terry Williams, Director of Physical Resources

Recommended Motion

That the Board of Governors of Sir Sandford Fleming College receive the Executive Suite Update and Refresh – Project Overview for information.

Overview

Updating and renewing the existing executive suites (B3345-B3371) has been in the capital plan for the past 3 years. The project has been deferred year over year for several reasons including; prioritization of academic priorities, C-wing renewal, and the finalization of the senior leadership team composition.

Now that the leadership direction has been set, we are proposing a deep retrofit of the area to improve collaboration, maximize use of space and allow for innovative creativity through 2 newly created incubator areas.

The overall revised footprint, while larger than the current suite, will house 17 persons (and 4 additional swing stations) vs. the currently housed 9 and include a designated boardroom space.

The cost for the project is projected to be \$385,000 plus net HST.

Benefits

- All executive meeting and meetings with teams, councils and committees would move from College boardroom space into a designate boardroom;
- Renovating and updating the space will allow for alignment of executive leaders, allowing for improved collaboration and excellence in delivering individual and aggregate Mandates. This will be enabled through improvements to the working environment, increased proximity and embedded technology;
- reducing pressure in all other College meeting rooms (particularly B3330);
- creation of 2 College incubator spaces, bookable through the president's office. One interior and one exterior (patio) space;
- centralization of executives (with staff at Sutherland), and their required supporting staff, for close collaboration and efficiency;
- improved WebEx capabilities in several meeting rooms (SMT meeting room, B3330 etc.);
- increased sound dampening between offices for privacy;
- removal of designated substances (asbestos);
- new LED dimmable lighting and increased natural light in all areas;
- modernized glass partitioning for future flexibility, and alignment with College standards;
- increased accessibility with door operators and paths of travel;
- ergonomic furniture, as part of the College renewal standards; and
- increased security measures including controllable door access and cameras.

Challenges

Challenge \rightarrow Optics of spending money on the executive suite

The facts:

- this renovation has been deferred for several years, to support other student and teaching focused priorities;
- aligns with other College renovation standards;
- significantly improved space efficiency (17 people + 4 swing stations located in one area);
- removes designated substances in the area;
- last remaining coffered ceiling system to be replaced at Sutherland;
- the roof sections have just been replaced under a separate project, allowing for wet ceiling and wall systems to be removed; and
- lighting is end of life and needs replacement to LED.

Challenge \rightarrow Impression that executives have palatial spaces

- renovated office sizes are aligned with the agreed space standards, created during A-wing renovation;
- overall per person space in the executive suite is less than the A-Wing standard;
- space will not feel large or extreme, the contrary will be true; it is a tight space for everything being accomplished; and
- President's team space decreases by over 10%.

Challenge \rightarrow Conversion of B3347

The facts:

- meeting room is converted into 3 separate in-suite areas; one office area and 2 bookable incubator spaces (one indoor and one outdoor);
- the current WebEx technology in B3347 would be relocated to B3330 for increased use and connectivity; and
- a meeting room created for SMT use, significantly reducing pressure in other College board rooms, particularly B3330.

Challenge \rightarrow Relocation of employees adjacent to B3347

The facts:

- a deep review of all office spaces is under review to accommodate and realign according to agreed space standards; and
- an assistant, currently housed in the office suite adjacent to B3347, will move into the renovated SMT office suite.

Next Steps

- 1. Finalize construction costing (\$385,000+/-), tender documents are ready for release
- 2. Communication plan to be developed and released (Communication and Marketing with PRD)
- 3. Engage designer for review and final product selection with stakeholders (PRD and architect)
- 4. Create detailed project schedule (PRD)
- 5. Create project plan and sequencing (PRD)
- 6. Relocate all B3347 bookings to other rooms, and technology to B3330
- 7. Reassign existing employees in preparation for project (PRD)

Total construction time is estimated at 60 days. The project will bridge year-end 19/20 to ensure all longlead items have been delivered, assuring minimum disruption to staff and students. Full completion will be scheduled for April 30, 2020. Bridging the completion over the year-end period will also distribute the budget between fiscal years 19/20 and 20/21.

Alignment with Strategic Direction

Renovating and updating the space will allow for alignment of executive leaders, allowing for improved collaboration and excellence in delivering individual and aggregate Mandates. This will be enabled through improvements to the working environment, increased proximity and embedded technology.

Risks and Considerations

External Environment	Internal E	nvironment 🗌 Finar	ncial 🔲 Human F	Resources	
Information Lechnology	Legal		Strategic	∐ N/A	

Supporting Documentation

- Draft floor plans



Fleming College Physical Resources

PROJECT Executive Suite Space Update project no. S.C.B3355 issue 16/09/2019





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EXECUTIVE SUITE SPACE UPDATE







November 27, 2019 | Public Meeting Packade





PRESIDENT'S REPORT November 2019 - Public Board Meeting

The following report is a summary of key updates of the President to the Board of Governors since the September 2019 Board meeting.

College System Update

Fleming has received the 2020-2025 Strategic Mandate Agreement (SMA3) Template and Metrics Workbook from the Ministry. An initial bilateral discussion was held on October 15, 2019 with the government lead for SMA3 and colleges and key members of the senior management team. The meeting was very productive and Fleming is currently determining the weightings of various metric for the ensuing 5 year period. The approved Strategic Plan for Fleming aligns very well with the direction of the SMA3.

A draft SMA3 will be reviewed by the Board at the January 2020 meeting. This will be the foundation for government funding for the next 5 year period. The Ministry of Colleges and Universities will finalize the SMA3 agreement in March 2020; the metric narratives are due December 2, 2019 and our draft SMA3 submission is due December 18, 2019. The Ministry will continue to engage Fleming in bilateral discussions leading up to the finalization of the SMA3 agreement.

Government Relations

A one on one meeting was held with the Deputy Minister of Colleges and Universities and the President. The Deputy will be attending Fleming College in the new year for a tour and a discussion of our priorities.

The Deputy and her team attended the meeting of the college presidents to discuss government priorities. These included: approving program proposals on a more timely basis; approving and distributing transfer payment agreements that have been delayed; beginning to fast track Order in Council appointments; and focussing on micro credentials, Masters degrees and "standalone" nursing programs at colleges.

The college and the Student Administrative Council (SAC) have begun preliminary discussions regarding a partnership to create a "Student Centre" at our Sutherland campus, per the desire of SAC. The proposed stand-alone building would provide social/study space for students and potentially centralize student services and allow for large conferences and events, such as convocation. This project does not replace the planned downtown Peterborough student residence. A more fulsome update will be provided to the Board in January 2020, once more details are known.

Strategic Planning

Senior Management Team has completed the project planning phase of the 2019-2020 Business Plan objectives and project execution in underway. An Interim Report of progress is scheduled to be presented at the January Board meeting. A corporate database has been developed to monitor implementation of the 2019-24 Strategic Plan, 2019-24 Action Plan, 2019-20 Business Plan and the Senior Management Team Mandate letters. SMA3 progress will also be monitored closely by the senior management team, in an integrated fashion.

Some process risks have been identified within Facilities, Information Technology and Human Resources. These have been mitigated as quickly as possible; further work is underway and was discussed in detail at the Finance and Audit Committee, November 20 2019.

Discussions have been held with the owner of the contiguous property to the Haliburton school of Arts with a view to Fleming acquiring this property. Currently, an appraisal has been completed for 7.3 acres. Once a firm price has been negotiated, the acquisition of the land will be presented to the Board in January 2020.

Fleming is also exploring potential space for students and residence in downtown Peterborough. This is at its very early stages but aligns with the Strategic Direction of the college.

The Board approved an MOU between the college and the city of Peterborough to explore the development of a twin pad arena on Fleming property. The city has submitted its application to the province and discussions are ongoing.

In a separate briefing note, a business case is presented to support the redevelopment of the senior team suites in B Wing. This is the final part of the Sutherland campus that requires work for health and safety issues as well as space optimization. While this does not require Board approval, a transparent approach is paramount given the sensitivities that often result in space changes. The approximate value is \$400, 000 and would be split over two fiscal years.

In Our Community

Events listed below are posted on social media (Twitter handle is @Fleming_Pres and is available on our <u>Board of Governors Internal Website</u>). Highlights from social media include:

- We were so proud to raise the Pride Flag at @FlemingCollege today! A special thank you to @kimzippel, @stephenawright & @mikeskinnerptbo for helping us celebrate this historical moment for the College. #newFleming #PrideWeek
- Pleased to attend the @UnitedWayPTBO campaign kickoff this morning! @FlemingCollege is proud to support this year's campaign and show our #LocalLove. #UnitedWay #ptbo
- Congratulations to the incredible Enactus Fleming team, who won People's Choice at the World Project Expo at the Enactus World Cup 2019. You have made us all at @FlemingCollege extremely proud! #FlemingInnovation
- A historic moment for @FlemingCollege as we celebrated our newly passed policy, 'Honouring the Rights of Indigenous Peoples.' We are committed to making every reasonable effort to ensure Indigenous languages & ways of knowing are represented in all College operations & spaces.
- Fleming College is committed to understanding the job market and providing talent that industry is looking for. We are very pleased to offer seven new programs in the new year.
- 'Stomp Out Stigma' is a great event that sets the tone for an inclusive and supportive campus. Join us tomorrow in the Auk's Lodge at Frost Campus as we recognize Mental Illness Awareness Week. #MIAW19
- Retweet @FemSteamPtbo: A group of amazing women inspiring the next generation of girls to have careers in STEAM! @RobertaBondar @rhonda_barnet @MaryamMonsef @flemingcollege @Fleming_Pres @DawnHennessey8 @dianetherrienptbo #girlsinsteam #wecandoit
- Congratulations @Jamie_Schmale. Fleming looks forward to our continued relationship and exploring possibilities for our Frost and Haliburton campuses. @FlemingCollege
- Congratulations @MaryamMonsef. We look forward to our continued work together and ensuring students have the skills they need to contribute to innovation in Canada. Congratulations to all candidates, thank you for caring passionately about our communities. #ptbo @FlemingCollege
- Congratulations to newly elected @PLawrence2019. Fleming looks forward to working together and contributing to innovation in Canada. @FlemingCollege
- Congratulations on this tremendous victory, Declan. Your dedication, training and determination paid off. Thank you for representing @FlemingCollege at the World Firefighter Combat Challenge.

Events listed below are those attended in person since the September Board meeting, highlights include:

- Attended and spoke at the Honouring the Rights of Indigenous Persons event main foyer, Sutherland Campus, September 25
- Attended the Peterborough Kawartha Economic Development Board Meeting and Retreat on September 26
- Meeting with Fleming Retiree Group representatives, September 30
- Attended the Fleming College/St. Joseph's at Fleming Partnership Meeting, October 1
- Welcomed Dr. Roberta Bondar who was speaking to Grade 7 and 8 girls from the local school boards (event hosted by FemSteamPTBO), October 10
- Attended Peterborough City Council meeting re arena, October 15
- Participated in Colleges Ontario Webinar: Navigating New Waters: Priorities for Colleges Ontario and the College System, October 16
- Attended Colleges Ontario Committee of Presidents meeting, Toronto, October 21 22
- Introduced guest speaker the Hon. David Onley at the Accessible Education towards Accessible Employment Conference, Frost Campus, October 23
- Attended Peterborough City Council meeting re arena, October 28
- Travelled to Haliburton to meet with space consultants (Prism), October 30
- Attended the PKED Board Meeting, October 31
- Attended City of Peterborough meeting re arena, November 4
- Attended and spoke at the United Way of Peterborough Employee Campaign Kick off event, main foyer, Sutherland Campus, November 5

- Attended Registrar's Office department meeting, November 7
- Hosted President's Listening Tour for staff, Frost Campus, November 7
- Board of Governors Retreat and Senior Management Team Retreat, Haliburton Campus, November 8
- Hosted President's Listening Tour for staff, Sutherland Campus, November 13
- Welcomed Peterborough Lakers recognition event, main foyer, Sutherland Campus, November 14
- Hosted President's Listening Tour for staff, Sutherland Campus, November 18
- Attended the Top Employer Summit, Toronto, November 25 26

Fleming in the News

Fleming celebrates Pride Week with ceremonial raising of the Pride Flag for first time in college history PTBOCanada.com | September 17, 2019

Maureen Adamson: Creating a welcoming place for all at Fleming Peterborough Examiner | September 17, 2019

Fleming announces new pathways for School of Business grads to study at Irish institution Academica.ca | September 18, 2019

Fleming announces new geothermal systems program, addresses need for geothermal installers Academica.ca | September 19, 2019

Peterborough college students create biodegradable plant pots Global News | September 23, 2019

Peterborough's Fleming College foursome qualify world firefighter combat challenge Global News | September 24, 2019

<u>Alabama bound: Fleming College FireFit team to take on the world</u> Peterborough Examiner | September 24, 2019

Fleming College recognizing Indigenous rights Peterborough Examiner | September 25, 2019

Fleming College honours rights of Indigenous Peoples with newly passed policy PTBOCanada.com | September 26, 2019

Fleming expands partnership with Limerick Institute, enables more students to study in Ireland Academica.ca | October 4, 2019

Fleming battling mental illness stigmas with 'Stomp Out Stigma' this week PTBOToday.ca | October 9, 2019 <u>New plan would shift twin-pad arena to Fleming College instead of Trent University</u> Mykawartha.com | October 10, 2019

<u>Opportunities out of this world, former astronaut Roberta Bondar tells girls in Peterborough</u> Peterborough Examiner | October 10, 2019

Hundreds of girls pushed to follow their 'STEAM' dreams Global News | October 11, 2019

Fleming College to add new programs in 2020 PTBOToday.ca | October 11, 2019

Peterborough city council backs plan to move twin-pad arena project from Trent to Fleming Global News | October 16, 2019

<u>Crowley stresses importance of health routines, fitness</u> Peterborough Examiner | October 16, 2019

Accessibility forum in Lindsay focuses on education, employment Global News | October 23, 2019

Food professionals learn the art of sustainable cuisine Global News | October 23, 2019

<u>Chefs in Peterborough train to create sustainable plant-based dishes</u> Peterborough Examiner | October 23, 2019

Twin-pad arena for Fleming College up for final approval Monday Peterborough Examiner | October 25, 2019

Fleming College site approved for new twin-pad arena for Peterborough Peterborough Examiner | October 28, 2019

<u>They are lumberjacks and they're ok</u> Peterborough Examiner | October 29, 2019

BOARD CHAIR'S REPORT Public Board Meeting – November 2019

The following is a summary of key updates of the Board Chair to the Board of Governors since the September 2019 Board meeting.

Next Board of Governors Meeting

Our next Board of Governors Meeting will be on January 22, 2020 at the Brealey Drive campus in Peterborough. The meeting will commence at 12:00 p.m. and lunch will be provided. Please review the 'Board Year at a Glance' document, located on the members only website, for additional information: http://department.flemingcollege.ca/bog-members/

College Connections

- Attended a training webinar titled "the College System and Introduction to Collective Bargaining".
- Received correspondence about the provincial government's new "Public College and Private Partnership Policy".
- Participated, with President Adamson and representatives from the Indigenous community, in an event commemorating the signing of the "Honouring the Rights of Indigenous Persons Policy" on September 25, 2019 at Fleming College's Sutherland campus.