

Fanshawe College

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Occupational Health and Safety Management

2022

New Program Proposal + NPV Occupational Health and Safety Management

Fanshawe College

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New Program Proposal

Occupational Health and Safety Management

Program Developers

Completed by the Curriculum Consultant

Titles	Individuals Responsible for New Program Plan
Dean	Pam McLaughlin
Associate Dean	Mark Hunter
Program Manager	NA
Curriculum Lead (Subject-Matter Expert)	Brenda Henry (SME)
Curriculum Consultant	Dee Morrissey

Program Specifications

Completed by the Curriculum Consultant

Categories	Specifications
Proposed Credential	Ontario College Graduate Certificate
Proposed MTCU Code	79804 Occupational Health and Safety Management
Proposed Program Categories (for OCAS) <i>Choose up to two.</i>	Category/Sub-Category: 3. Business, Finance & Administration/321. Quality Assurance/Control Category/Sub-Category: 8. Energy, Environmental & Natural Resources/804. Environmental
Length of Program	<ul style="list-style-type: none"> • Number of semesters: 2 (Domestic) or 3 (International) PLUS 1 co-op semester • Semester length in weeks: 15 weeks • Total program hours: 700 (Domestic) 1050 (International)
Proposed Launch Date	September 2022
Proposed Intakes	<input checked="" type="checkbox"/> Fall <input checked="" type="checkbox"/> Winter <input type="checkbox"/> Spring <input type="checkbox"/> Other: International program starts in Fall; Domestic program starts in Winter
Program Delivery Methods	<input type="checkbox"/> Web-facilitated (face-to-face) <input checked="" type="checkbox"/> Blended <input type="checkbox"/> Online <input type="checkbox"/> Fast-track <input type="checkbox"/> Accelerated <input type="checkbox"/> Collaborative <input type="checkbox"/> Weekend <input type="checkbox"/> Other
Co-operative Education Program	Yes - Experiential (Required to graduate) for International; Mandatory Fee but <u>not</u> required to graduate for Domestic
Micro-credential Options	No

Program Description

Completed by the Curriculum Consultant

Occupational Health and Safety Management is an Ontario College Graduate Certificate (OCGC) that prepares graduates for entry-level supervisory roles in the field of occupational health and safety. The curriculum aligns with the six competency domains of the Canadian Registered Safety Professional (CRSP) certification offered by the Board of Canadian Registered Safety Professionals (BCRSP):

1. Hazard and Risks: Identification and Assessment
2. Hazard and Risks: Controls and Mitigation
3. Health and Safety Management
4. Ethics, Professional Role and Function
5. Technical, Human and Social Sciences
6. Management Sciences

The program will appeal to domestic and international students interested in a full-time, blended delivery program that combines theory and practice, culminating with work-integrated learning. The program is also offered on a part-time basis.

Graduates will be prepared for employment in all occupational environments, from manufacturing and healthcare to transportation and agriculture, as in-house professionals or as consultants.

Program Duration

The program duration varies as outlined below:

- Domestic students complete two academic semesters and one co-op semester
- International students complete three academic semesters and one co-op semester. (The additional academic semester for international students is offered at the beginning of the program and includes content related to “Canadian context”.)

Program Structure

Domestic and international students are in a combined cohort for the two semesters that cover the six CRST competency domains. The program structure and duration are shown in the graphic below.

Fall	Winter	Spring/Summer	Fall
<i>Canadian Context</i> International (L1)	<i>CRSP Content</i> International (L2) Domestic (L1)	<i>CRSP Content</i> International (L3) Domestic (L2)	<i>Co-op</i> International Domestic

Labour Market Demand

Completed by the Curriculum Consultant

Labour market demand for occupational health and safety professionals is anticipated to increase and remain at high levels due to the global COVID-19 pandemic. The pandemic has highlighted a clear societal need for occupational health and safety professionals who will work in the public and private sectors to develop and administer laws, regulations, and policies to protect workers. Labour market demand will remain at high levels post-pandemic because of increased awareness of the critical role of these professionals in maintaining safety in the workplace, and because of the direct relationship between workplace safety, societal safety and a healthy economy. The projected increase in labour market demand has been confirmed by the subject matter expert associated with the program development.

Institutional Research provided labour market data for NOC 2263 for another program currently in development at Fanshawe; this data, released by Emsi in October 2020, is provided below. Emsi projects stable labour market demand for NOC 2263; however, Emsi data does not yet reflect the impact of COVID-19: “It is important to remember that Emsi’s projections are forward projections of past employment trends. They do not take into account any legislation, current events, or non-employment factors” (Emsi website).

Program Idea	National Occupation Classification (NOC)	2019 Jobs	2028 Jobs	Change in Jobs 2019-2028	% Change in Jobs 2019-2028	Average annual change in Jobs 2019-2028	Employment Outlook (National, Provincial, Regional) (2019-2021)	Job Opening/Job Seeker (National) (2019-2028)	Additional Information
Pharmaceutical Regulatory Affairs & Quality Operations	2263	Inspectors in Public and Environmental Health and Occupational Health and Safety							
	Canada	39,413	40,853	1,440	4%	160	Fair	Balanced ³	Public health inspectors require certification with the Canadian Institute of Public Health Inspectors.
	Ontario	13,706	14,188	481	4%	53			
	London 90 min distance	3,008	3,108	101	3%	11			
	London CMA	443	432	(11)	(2%)	-1	Fair		

³ Combined with Image, social and other personal consultants and Other personal service occupations.

⁴ Combined with Non-destructive testers and inspection technicians and Engineering inspectors and regulatory officers.

Perhaps the best indicators of current labour market demand are recent job postings. The Canadian Online Job Posting Dashboard shows 190 online job postings for December 2020 for NOC 2263, a 58.3% increase, year-over-year. (2021 data is not yet available.) The keywords “occupational health safety” generate 3612 “hits” in *Indeed* for Ontario, and 5873 for Canada (February 10, 2021). The public sector demand for occupational health and safety professionals is underscored by a recent news release from the Government of Ontario announcing the hiring of over 100 occupational health and safety inspectors “to support business inspection campaigns, and help ensure employees, businesses and the public are protected”. In the release, the Minister of Labour, Training and Skills development states that Ontario “is building the largest team of inspectors in Ontario’s history to educate business owners, enforce public health measures and keep workplaces safe now, and for many years to come.”

<https://news.ontario.ca/en/release/60530/ontario-hires-100-additional-health-and-safety-inspectors>

Labour market demand, while largely spurred by the pandemic, is expected to remain at higher-than-normal levels as society and the economy adjust to post-pandemic expectations for workplace safety.

National Occupational Classification (NOC) Code(s):

NOC 2263, Inspectors in public and environmental health and occupational health and safety, is the NOC code most closely aligned with Occupational Health and Safety Management, although the code is more broad than the scope of the program. Sample job titles from the NOC 2263 list for graduates of Occupational Health and Safety Management include the following:

- Occupational health inspector
- Occupational health and safety officer
- Industrial health officer
- Public health safety inspector

NOC 0112, Human resources managers, includes job titles that would be aspirational for graduates with 5-10 years' experience:

- Chief safety officer - occupational health and safety
- Health and safety co-ordinator
- Occupational health and safety director
- Occupational health and safety manager
- Occupational training director - human resources

Evidence to validate employment demand was based on the following sources:

- Emsi
- Job Bank Canada
- Canadian Occupational Projection System (COPS)
- Canadian Online Job Posting Dashboard
- Indeed

Student Demand

Completed by the Curriculum Consultant

Student demand for programs in occupational health and safety will increase due to growing awareness of the opportunities in this field as a result of the global COVID-19 pandemic, and it is expected that student demand will remain at levels sufficient to sustain the program.

This program will appeal to university graduates seeking to leverage their undergraduate degree for admission to a graduate program leading to a professional credential. The program is designed to appeal to both domestic and international students: the curriculum is aligned with a well-recognized Canadian certification, the program duration and structure meets the different needs of both cohorts, and the program ends with work-integrated learning (i.e., co-op).

The graphic below shows the most recent application and enrolment data for the two comparable full-time programs offered under MCU code 79804, Occupational Health and Safety Management. The larger program at Fanshawe's geographically closest competitor, Conestoga College, shows steady growth in domestic enrollment, but exponential growth in international enrolment, from 11 to 104 students in just two years.

Program Idea	MCU Code and Title	Comparable/Feeder	College	Fall Terms																		
				Applications				Domestic					Average Annual Application Growth	Average Annual Enrollment Growth	Enrollment Trend	International						
				2017	2018	2019	2020	2015	2016	2017	2018	2019				2015	2016	2017	2018	2019	Average Annual Enrollment Growth	Enrollment Trend
Occupational Health and Safety Management Graduate Certificate program development	79804 Occupational Health and Safety Management	Comparable	CONESTOGA	37	56	78	86	0	0	9	11	13	4.1	0.7		0	0	11	74	104	5.2	
			FLEMING	60	62	69	71	0	27	19	27	18	0.9	0.9		0	1	7	8	7	0.4	
			TOTAL	97	118	147	157	0	27	28	38	31	5.0	1.6		0	1	18	82	111	5.6	

Occupational Health and Safety Management may draw students from other graduate certificate programs given the inclusion of a co-op semester, which is included in only seven other Fanshawe graduate certificates, and the admission requirements, which are not restrictive. The program may specifically draw international students from other graduate certificate programs because the program duration (i.e., four semesters) meets the requirements for a three-year Canadian work visa, and the additional Canadian context semester meets the needs of international students.

Evidence to validate domestic and international student demand was gathered from the following sources:

- Enrollment summaries and growth trends for similar programs
- Recruiter feedback

Domestic Enrollment Projections

5 students per year – intake in the Winter term.

International Enrollment projections
45 students per year – intake in the Fall term.

Strategic Mandate Agreement

Completed by the Academic Quality Associate

This Strategic Mandate Agreement (SMA) between the Ministry of Colleges and Universities (the Ministry) and Fanshawe College is a key component of the Ontario government's accountability framework for the post-secondary education system.

The 2020-2025 SMA is based on a performance-based funding model, and includes the following metrics by which the Ministry will measure the College's performance and determine funding allocations:

1. Graduate employment rate in a related field
2. Institutional strength/focus
3. Graduation rate
4. Community/local impact based on student enrollment
5. Economic impact based on the number of co-operative education work placements
6. Graduate employment earnings
7. Experiential learning
8. Revenue attracted from private sector sources
9. Apprenticeship
10. Skills and competencies

For more information about each of these metrics and the performance-based funding calculations, review the 2020-2025 SMA.

The strength of this program is measured against elements of the SMA that may be influenced by the College. Review of the MCU Code shows that this program Strongly Aligns with Fanshawe's Strategic Mandate Agreement.

Occupational Health and Safety Management - SMA Mapping - 79804

SMA Measurement Num	Data	Map	Score	Total Possible
1	86%	0.952	3.810	4
2	Yes	5	5	5
3	No Data*		0	0
6	\$28,157	0.804	2.413	3
7	Yes	3	3	3

14.22 15

Fanshawe Empl Rate - 90.3

95%

Grad Rate Fan - 69.5

Prov. College Earning - \$35,000

80+ - Strongly Aligns

60 - 79 - Aligns

40 - 60 - Misalignment

<=39 - Strong misalignment

Net Present Value

Completed by the Academic Quality Associate and Manager, Academic Support and Scheduling

The net present value (NPV) is based on the present value of program revenue (i.e., projected enrollment, tuition, grant) and the present value of program expenses (i.e., resource needs, including capital and operating expenses) for the first ten years of program delivery. The NPV is used in capital budgeting and investment planning to assess the profitability of the proposed program. A program is likely to be profitable if the NPV is positive.

For the proposed program, the NPV, including operating grant is **\$3,065,602**. The NPV without operating grant is **\$3,038,347**. The NPV was calculated with an 8% discount rate, which adjusts for the risk of investing in the program and accounts for the difference between the present and future value of money.

See [Appendix A](#) for the net present value calculation.

Revenues

Revenues are based on projected enrollment. See [Student Demand](#) for the enrollment projections.

Revenue	Details
Grant	<ul style="list-style-type: none">• Grant based on MCU Code 79804: \$787.60
Tuition	<ul style="list-style-type: none">• The tuition is based on post-grad rate for international students and high standard rate for domestic students.:<ul style="list-style-type: none">○ Domestic: \$778.37 per term and \$1,556.74 per year.<ul style="list-style-type: none">▪ Bursary holdback: \$109.37 of the tuition is allocated for student bursaries○ International: \$7,596 per term and \$1,192 per year.<ul style="list-style-type: none">▪ International student recovery: \$375 per student per term
Program-Specific Fees	<ul style="list-style-type: none">• N/A
Other Associated Revenue	<ul style="list-style-type: none">• N/A

Capital Expenses

Capital expenses include one-time expenses that could be incurred at start-up or another time during the program delivery and other on-going capital expenses.

Expenses	Details
One-time Expenses – Facilities	N/A - No dedicated lab space required.
One-time Expenses – Equipment	\$15,000 for assessment equipment.

Expenses	Details
Other Start-up Expenses	N/A
Other Capital Expenses	N/A

See the [Resources](#) section of this proposal for more information about these capital expenses.

Operating Expenses

Operating expenses include on-going expenses required to deliver the program except for salary expenses.

Expenses	Details
Marketing and Recruitment Expenses	<p>Marketing expenses are estimated according to the standard rate for all programs, including \$15,000 in the first year and \$5,000 per year in subsequent years.</p> <p>International recruitment expenses are estimated at a standard rate of 15% of the tuition amount for Level 1 and Level 2 of the program.</p>
Other Operating Expenses	\$7,000 for ISU (consumables) and \$10,000 software estimate which may be unnecessary.

See the [Resources](#) section of this proposal for more information about these operating expenses.

Salary Expenses

Salary expenses are on-going expenses that include salaries for curriculum developers, full-time and non-full-time faculty, and other administrative and support staff supporting program development and delivery.

Expenses	Details
Curriculum Development Expenses	Curriculum development expenses were estimated according to the standard rate based on program length: \$25,000 per program year. Therefore, curriculum development expenses for this program are \$37,500.
Human Resources Expenses	<ul style="list-style-type: none"> • 1 net new full-time faculty are required in year 2 of delivery. Full-time salaries are estimated at the full-time maximum salary including fringe cost. <ul style="list-style-type: none"> ○ The coordinator stipend is included. • The number of weeks for part-time and partial-load teaching is estimated at 15weeks. <ul style="list-style-type: none"> ○ The part-time:partial load ratio is 40/60. ○ 7 part-time teaching hours per week were included based on an estimate of 21.5 hours/week for the program.

Expenses	Details
	<ul style="list-style-type: none">○ The hourly rate for part-time faculty was estimated at \$96.25/hour.○ The hourly rate, including benefits, for partial-load faculty was estimated at \$128.82/hour.● Indirect salaries for administrative/support staff were also included: \$10,000

See the [Resources](#) section of this proposal for more information about these salary expenses.

Resources

The following resources are expected to be required for the development and delivery of the proposed program. Costs associated with these resources are reflected as either capital or operating expenses in the Net Present Value section.

Curriculum

Curriculum development expenses were estimated according to the standard rate based on program length. Existing subscriptions will be utilized for this program and physical copies of some print texts will need to be purchased for library availability. Other potential operating and software expenses for the program include the cost of these resources.

Consultations: Brenda Henry (SME), Megan Anderson, LMS

Marketing and Recruitment Resources

Marketing and international recruitment expenses were estimated according to standard rates for all programs. Capital and operating expenses for the program include the cost of these resources.

Consultations: Devin Robinson, Courtney Ecker, Saurabh Malhotra

Human Resources

One new faculty member is proposed beginning in year two of the program. Additional support and administrative actions will be absorbed by the school. Salary expenses for the program include the cost of these resources.

Consultation: Mark Hunter

Infrastructure

Infrastructure resources include the physical and virtual space, information technology resources, and equipment, tools, and materials required to deliver the program. \$15,000 expenses for the program include the cost of these resources.

- **Physical and Virtual Space Requirements:** Standard classrooms will be utilized. While storage of specialized equipment and PPE will be necessary, no dedicated lab space is needed at this time. Many assessment experiences will take place across the College in existing spaces.
Consultations: Brenda Henry (SME), Lisa Dennis
- **Specialized Equipment, Tools, and/or Materials:** Some personal protective equipment will be necessary.
Consultations: Mark Hunter, Brenda Henry (SME)
- **Information Technology/Computing Resources:** None.
Consultations: Brenda Henry (SME)

Additional Program Information

This program is being proposed as highly focused on the international market. Planning of intakes support this focus.

Notes:

1. Grant based on existing MCU code79804 (wght 1.0, fndg unit 0.4) TFF = .5
2. Tuition based on post grad rate for international, high standard for domestic
3. 10%/90% domestic/international enrolments assumed
4. Based on lvl 1 enrolment total of 50(max 60). International students take 3 levels plus co-op, domestic take 2 levels plus 1 term of co-op
5. Prog Specific fees
6. Additional SPT costs for program assistant (8hrs/wk x \$25 x 45wks).
7. Based on 21.5hrs/wk per level. One new FFT in Year 2.
8. Equipment, PPE etc.
9. \$7000 for ISU (consumables), software \$10k estimate
10. No capital request at this time but space is becoming a challenge in PSF.

INPUT FIELDS

Tuition - domestic lvl 1		\$723.69	Tuition less bursary holdback
(per term) lvl 2		\$723.69	Tuition less bursary holdback
lvl 3		\$0.00	Tuition less bursary holdback
lvl 4		\$0.00	Tuition less bursary holdback
Grant all levels		\$787.60	
(per term)			
Program specific fee all levels		\$0.00	
Tuition - international lvl 1/2		\$7,221.00	Tuition less international student recovery
(per term) lvl 3/4		\$7,221.00	Tuition less international student recovery
lvl 5/6		\$0.00	Tuition less international student recovery
lvl 7/8		\$0.00	Tuition less international student recovery
Enrolment split domestic		10%	
international		90%	
Part time / Partial load split %	PT	40%	
	PL	60%	
hrly rate	PT	\$96.25	
(incl. ben's)	PL	\$128.82	
Number of weeks for PT/PL		15	

YEAR 1

Enrolment table	Program name		
	Domestic	Int'l	
level 1 - Fall	5	45	50
level 2 - Winter	4	38	42
level 1 - Winter	0	0	0
level	0	0	0
Tuition rates	9	83	92

	Domestic	Int'l
level 1	723.69	7,221.00
level 2	723.69	7,221.00
level 3	723.69	7,221.00
level 4	723.69	7,221.00

Grant values

	Domestic	Int'l
level 1	787.60	0.00
level 2	787.60	0.00
level 3	787.60	0.00
level 4	787.60	0.00

YEAR 2

Enrolment table	Program name		
	Domestic	Int'l	
level 1 - Fall	5	45	50
level 2 - Winter	4	38	42
Level 3 - Summer	0	34	34
Level 4 - Winter	0	0	0
level 1 - Winter	0	0	0
level 2 Summer	0	0	0
Level 3 - Winter	0	0	0
	9	117	126

Tuition rates

	Domestic	Int'l
level 1	723.69	7,221.00
level 2	723.69	7,221.00
level 3	723.69	7,221.00
level 4	723.69	7,221.00

Grant values

	Domestic	Int'l
level 1	787.60	0.00
level 2	787.60	0.00
level 3	787.60	0.00
level 4	787.60	0.00

YEAR 3

Enrolment table	Program name		
	Domestic	Int'l	
level 1 - Fall	5	45	50
level 2 - Winter	4	38	42
Level 3 - Summer	0	34	34
Level 4 - Winter	0	0	0
level 1 - Winter	0	0	0
level 2 Summer	0	0	0

Level 3 - Winter	0	0	0
Level 4 - Summer	0	0	0
	9	117	126

Tuition rates			
	Domestic	Int'l	
level 1	723.69	7,221.00	
level 2	723.69	7,221.00	
level 3	723.69	7,221.00	
level 4	723.69	7,221.00	

Grant values			
	Domestic	Int'l	
level 1	787.60	0.00	
level 2	787.60	0.00	
level 3	787.60	0.00	
level 4	787.60	0.00	

YEAR 4

Enrolment table			
	Program name	Domestic	Int'l
level 1 - Fall		5	45
level 2 - Winter		4	38
Level 3 - Summer		0	34
Level 4 - Winter		0	0
level 1 - Winter		0	0
level 2 Summer		0	0
Level 3 - Winter		0	0
Level 4 - Summer		0	0
		9	117

Tuition rates			
	Domestic	Int'l	
level 1	723.69	7,221.00	
level 2	723.69	7,221.00	
level 3	723.69	7,221.00	
level 4	723.69	7,221.00	

Grant values			
	Domestic	Int'l	
level 1	787.60	0.00	
level 2	787.60	0.00	
level 3	787.60	0.00	
level 4	787.60	0.00	