
ONCAT Final Report:

2018-10 Workplace Safety and Prevention Partnerships and Ladder
to Degree

February 28, 2019

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Project Team

The project team is comprised of representatives from Lambton College, Seneca College, Cambrian College and Ryerson University.

Lambton College Project Team Members:

1. **David Simon**, e-Learning Manager and Coordinator, Program Development & Pathways
2. **John Barker**, Program Coordinator, Workplace Safety and Prevention
3. **Erin Soeder**, Program Coordinator, Environmental Technician (EWSO)
4. **Terry Babbey**, Director, Information Technology
5. **Julie Carlton**, Director, Financial Planning
6. **Nadine Cervi**, Associate Faculty (English) and Pathways Research Consultant

Seneca College Project Team Members:

7. **Henry Decock**, Associate Vice President, Academic Partnerships
8. **Tony Mallette**, Chair, School of Health Sciences
9. **Ivy Chiu Loke**, Director, Program Quality
10. **Alvin Shum**, Director, Service Delivery

Cambrian College Team Members:

11. **Joanne MacLellan**, Chair, Schools of Engineering Technology and Environmental Studies
12. **Charline Smith**, Pathways Office Strategic Initiatives Department

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13. Rick Daoust, Director, Information Technology Department

14. Meghan Roy, Director, Financial Services

15. Tracy McMillan, Manager Financial Services

Ryerson University Project Team Members:

16. Thomas Tenkate, Associate Professor & Director, School of Occupational and Public Health

17. Charmaine Hack, University Registrar

Executive Summary

Seneca College, Lambton College, and Cambrian College worked together to create an innovative collaboration to jointly offer and share curriculum of the in-demand credential – Workplace Safety and Prevention (WSPP) diploma so graduates can ladder into Ryerson University’s Occupational Health and Safety (BASc) degree program. Lambton College currently offers the WSPP diploma program, and the main goal of this pathway project was to have Seneca College and Cambrian College offer the WSPP program and to share in the delivery of certain Occupational Health & Safety courses that are embedded in the WSPP program. Before this could happen, Seneca College and Cambrian College would need to receive program approvals.

When Seneca and Cambrian received their program approvals, the project team started working on utilizing their institutional strengths to incorporate new technologies into the design and construction of curriculum materials for each OHS course. For example, Lambton College Subject Matter Experts (SMEs) worked on augmenting four OHS courses using technology (see pp. 18-20). In addition, the IT Subcommittee members for this project were reviewing various educational technologies systems (i.e. web-conferencing system) that would potentially be used to deliver the courses synchronously between Seneca, Lambton, and Cambrian.

At this time, Ryerson University and the Curriculum Subcommittee members, reviewed the WSPP program map and course outlines to determine the pathway entry into Ryerson’s Occupational Health

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and Safety degree. After a detailed review of the diploma courses, a proposal was created by Ryerson for a 2+2 model – diploma graduates will complete 2 years at Ryerson to obtain the degree. ***To review the full details of this pathway, please see the section titled “Summary of Pathway Created.”***

Project Purpose and Goals

This proposed project is a perfect fit in terms of alignment to innovation in curriculum and ultimately program design as noted in the description of the project goals listed below. Specifically, this collaborative project provides for the delivery of a unique diploma which is currently offered at only a rural CAAT location and which also has no identified degree completion pathway. Coupled with increased industry demand for qualified and externally accredited workplace safety professionals, this proposal seeks to address these issues while providing a sustainable model that can be employed or expanded for years to come.

The intended goals (and future goals) of the project are listed below:

1. The development of the only transfer degree pathway option in a related area that enhances student mobility and expands transfer opportunities. This agreement is based on coordinated curricula and dedicated pathways to provide a seamless student experience.
2. Identifying supporting courses (other than core Occupational Health and Safety courses) at each diploma partner that will be fully transferrable within the credential. In addition, to make all courses fully transferable (credit-for-credit) between any of these diploma partners. This enhances student mobility between regional partners as the transfer model allows students to start the program at one College and transfer to a partner College for program completion.
3. Incorporating previously learned best practices (i.e. academic scheduling, pre-semester start-up checklists, etc.) to ensure program scalability and economies of scale while improving the overall student experience – regardless of geographic location.
4. Utilizing shared organizational strengths in learning technologies – augment and enhance classroom-based Occupational Health and Safety courses to add innovative educational technologies into courses content to develop a richer set of learning resources. This may be

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accomplished by mapping and expanding delivery methods, creating, and/or incorporating Augmented and Virtual Reality to the learning. This allows students the opportunity to master the curriculum through greater adaptive curriculum, videos and simulations.

5. Researching and establishing the preferred educational delivery platforms that will be used by each diploma partner to effectively deliver the robust learning materials. This may include the development of a designated spaces (classrooms) that better support the learner experience with the incorporation of these new educational technologies in the classroom.
6. Developing a shared curriculum program costing model into this collaborative delivery to provide a fiscally sustainable program solution to meet the specialized demand of province-wide public and private sector employer needs.
7. Offering the program in 3 geographically distributed CAATs partnering for this collaborative delivery model. This provides for greater shared economies of scale and enhanced province-wide student mobility between regions for program delivery across partner Colleges.

Under the most common area for employment for the WSPP program, NOC 2263 – Inspectors in public and environmental health and occupational health and safety, the most current employment outlook is listed as above average, or the highest rating for 2017-2021. Above average labour market conditions usually mean that, relative to the employment situation overall, there is a better likelihood of finding stable work in this occupation, and employment prospects are attractive or improving. In addition to the bachelor's degree or college diploma in a discipline such as food science, environmental studies, chemistry or health and safety, occupational health and safety officers may require certification with the Board of Canadian Registered Safety Professionals (BCRSP).

Student Demand

With very little marketing and recruitment for this program, the first intake at Lambton College resulted in a total of 34 students, which was 14 students over the initial Lambton College program costing projects of 20 students in the first year. It is anticipated that with similar industries in the greater Sudbury area (like the Sarnia-Lambton area) and the need for occupational health and safety officers in the greater Toronto region, the projected new student numbers will greatly increase based on the employment outlook and need.

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Project Timeline

To ensure that the following pathway project is completed on-time, the project responsibilities have been separated into specific timelines for the partnered institutions to follow. Please see the following timeline below:

Project responsibilities: April 1, 2018 – February 28, 2019

Project Committee and External Evaluator Selection Plan (April, 2018) – Cambrian, Lambton, Seneca and Ryerson University will create a project committee and enlist the required contacts. The committee will define specific roles and responsibilities, deliverables and deadlines. Members will be given initial deliverables to report on in the next scheduled meeting.

The group will discuss a plan to hire an external project evaluator. Once a selection has been made, the proposal and project plan will be shared with the external evaluator, who will review the quality and success of the pathway through verifying methodology, assessing the validity of outcomes, determining value of the pathway for students, and providing recommendations by way of a summative report. They will be granted access to agreements between institutions and relevant college student survey results, and provide guidance on the overall project goals.

Scheduled Meeting Plan (May, 2018) - The project committee will determine a scheduled timeline of meetings in order to complete the project tasks.

Curriculum Development and Enhancement (May - December, 2018) – Curriculum teams begin curriculum planning enhancements in cross-taught courses. Curriculum development will be done with consistent navigation, look and feel to create a cohesive student experience using universal instructional design. Reviews of course outlines, course learning outcomes and syllabus to determine the appropriate learning resources to support enhanced development.

Diploma Equivalency Mapping (May - June, 2018) – Curriculum mapping identifying course equivalencies will be established and shared.

Transfer Mapping (May - December, 2018) – Curriculum mapping identifying course equivalencies for diploma into degree established and shared.

Educational Technology (May - July, 2018) – Project teams will collaborate to determine most appropriate educational technology for shared classroom deliveries.

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Program Development (May 2018 – Feb 2019) – Program development to occur at Cambrian and Seneca Colleges to obtain all internal and external program approvals to offer the diploma program.

Interim Report 1 (August 1, 2018) – Submitted to ONCAT.

Best Practices for Shared Program Success (September 2018 – January, 2019) – Project teams from diploma partners will establish best practices based on learned experiences to ensure start-up, as well as long term sustainability.

Interim Report 2 (December 1, 2018) – Submitted to ONCAT.

Program Approval and Marketing Strategy (January - February, 2019) – All development, including MOU's/transfer agreements will be completed, signed and approved.

Final Report (February 28, 2019) – Submitted to ONCAT.

Shared Program Costing (October, 2018 – June, 2019) – Project teams to determine shared program costing.

Project Management: The committee intends to meet (in the beginning) by telephone or email. The initial meetings will be used to discuss the project expectations, confirm timelines and individual responsibilities. Task will be assigned and regular check-ins will occur as per the agreed upon schedule.

External Evaluation Plan

Dr. Marjorie McColm worked at George Brown College for 23 years in a variety of senior academic leadership positions including Dean, Director Academic Excellence and Associate Vice-President Academic. Dr. McColm was responsible for the development of the College's institutional research department and designing and implementing the College's quality assurances processes. She also participated in a numerous Canadian and Provincial community college committees associated with program development and quality assurance. Dr. McColm was a board member of Ontario College Quality Assurance Service. Since her retirement Dr. McColm was the project manager for the Pre-Health Science Project funded by Ontario Council for Articulation and Transfer and she continues to serve on audit panels for the Ontario College Quality Assurance Service.

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Please see below for the external evaluator's timeline for this project:

External Evaluator Timeline	
Activity	Dates
Develop Evaluation Plan and sign contract.	March 1 2018
Provide input on project goals, inputs, activities and timelines with project leaders identify risks and potential unintended consequences.	March –May 2018
Monitor progress on goals with regard to curriculum development and mapping and review interim report	May to August
Provide input regarding the establishment of best practices for shared delivery.	Sept. to Dec. 2018
Provide input on the development of memorandums of understanding that are developed between the participating colleges regarding all standards of the program including admissions, program and course outcomes, transferability, delivery methods and the implementation of program changes. Support the development of transfer arrangement with Ryerson University and the participating colleges.	January to February, 2019
Review of final draft report, develop final evaluation report include a narrative on the formative and summative evaluation activities and results.	Feb. 28, 2019

Key Formative Evaluation Points	Evaluation guideline
Project Design	Provide a clear rationale for the project, which includes relevant data to support the project goals.
Project Goals	Ensure all the required inputs are in place to support achieving the project goals.
	Provide a clear and comprehensive project plan that delineates responsibilities and timelines for each activity.
Approval Processes	Outline how participants are to communicate and consult as work progresses and where and when final approval of products are determined.
	Provide clear timelines for internal and external approvals and consultations.
	Identify potential challenges that may result in the

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Unintended Consequences	inability for participants to complete their tasks on time.
	Develop action plans to mitigate any potential challenges.

Key Summative Evaluation Points	Evaluation guidelines
Short term outcomes of the project	Determine whether the activities of the project were completed and MOU is in place.
Recommendations on potential replication strategies	Make recommendations on how partner institutions may implement the delivery of the program.
	Make recommendations on how the processes of this project may assist others who which to collaborate on the delivery of a program and ladder into a degree program.

Deliverables

Please see below for the **projected deliverables set at the beginning of this project** by the project team members:

Milestones	Date	Notes (if none, please write N/A)
Diploma Program Development	2018/03/01	Ongoing (as noted above)
Health and Safety Curriculum Enhancements for Distance Delivery	2019/02/01	N/A
Diploma Equivalency Mapping (diploma partners)	2018/07/01	N/A
Interim Report 1	2018/08/01	N/A

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Curriculum Mapping (Ryerson Degree)	2018/12/01	N/A
Interim Report 2	2018/12/01	N/A
Best Practices for Shared Programs	2019/01/01	N/A
Program Approvals/MOU/Transfer Agreement	2019/02/28	N/A
Final Report	2019/02/28	N/A

Pathway Development

A) Methodology

This pathway project could not have been completed without the hard work and innovative collaboration between all project team members. The project team knew that this would be a huge undertaking, but from the very start of the project, it was clear that between each partner institution, the end goal of this pathway would be met. Please see below for some highlights from the working groups meetings and methods when developing this pathway project:

In March, the project team met to discuss the working plan. The project lead from Lambton suggested creating subcommittees. The group believed having subcommittees would create a more effective work flow, having one member from each subcommittee report back to the larger group. The subcommittees that were created for this project are listed below:

1. Group 1 – Curriculum Subcommittee
2. Group 2 – Subject Matter Expert(s) Subcommittee

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3. Group 3 – Information Technology (IT) Subcommittee
4. Group 4 – Costing Model Subcommittee

In June, the members of Lambton College, Cambrian College and Ryerson University met at Seneca College to discuss the Occupational Health and Safety (OHS) courses, and which courses each College would be assigned to enhance utilizing their institutional strengths to incorporate new technologies into the design and construction of curriculum materials and resources. During this meeting, Lambton selected their four courses first. Lambton's faculty members were already familiar with the courses and knew which ones they wanted to start enhancing using educational technology. Project team members from Seneca and Cambrian discussed which courses best suited their institutions and knowledge, and selected the courses listed below:

Institution Name	Courses
Cambrian College	OHS 2013 – Ergonomics OHS 3043 – Health and Wellness OHS 2033 – OHS Management Systems OHS 3063 – Introduction to Process Safety
Lambton College	OHS 1023 – Occupational Health and Safety OHS 2023 – Risk Management OHS 2043 – Accident Prevention & Investigation OHS 3013 – Emergency Planning and Management
Seneca College	OHS 2053 - Disability Management OHS 3003 - Industrial Hygiene and Toxicology OHS 4003 - Industrial Hygiene and Toxicology Lab OHS 3055 - Operational Safety

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The next decision the group needed to make was what type of educational technology platform to use to synchronously deliver the OHS courses between Lambton, Seneca, and Cambrian. In October, the project team met at Seneca again to discuss the educational technology platform. There were two options presented to the group: Big Blue Button and Adobe Connect.

The IT subcommittee met separately and did a review of the capabilities and values for both Big Blue Button and Adobe Connect. The result from this meeting was to use Adobe Connect. This is the web-conferencing system that we will use to synchronously deliver the OHS courses to students at Seneca, Lambton, and Cambrian.

During the second half of the project, the team worked on the actual delivery methods (i.e. in-class, hybrid, online) for courses that will be offered at Lambton, Seneca, and Cambrian. In addition, the team worked on transfer recognition, agreement objectives and the actual administration of the project. An important piece for this pathway project was to create a transfer agreement that is seamless – the group really wanted to execute a 2+2 model. Ryerson University did a detailed review of the diploma courses, and it was clear that a 2+2 model would be achieved.

Please see the working plan below and the key milestones the group determined for this project:

Item	Milestone	Work Description	(Anticipated or Actual) Completion Date
1	First Project Meeting (completed by teleconference)	The project team was assembled, and the working plan for this project was discussed and confirmed at this meeting.	12-Feb-18
2	Second Project Meeting (completed by teleconference)	The project subcommittees were confirmed at this meeting. Lambton College outlined lessons learned from their collaborative joint delivered EWSO program, and the dividing of OHS courses was completed.	23-Apr-18

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3	Curriculum Analysis and Gap Analysis	The WSPP program map and the course outlines were sent for review. Several delays on the mapping in January. The mapping for a block transfer was completed in February 2019.	01-Jan-19 (Anticipated)
4	Third Project Meeting (completed by teleconference)	Updates on program approvals at Seneca and Cambrian were discussed. SMEs for the OHS courses were discussed and to be determined by the next meeting.	7-June-18
5	Fourth Project Meeting (hosted by Seneca)	Updates on program approvals for Seneca and Cambrian were discussed once again, and the potential costing model for this project.	27-June-18
6	Interim Report 1	This report outlined the progress of the project as of August 1, 2018. It was submitted to ONCAT by Nadine Cervi.	01-Aug-18
7	IT Subcommittee Meeting 1	The IT Subcommittee met to discuss potential web-conferencing systems to use for this project.	12-Sept-18
8	Curriculum Subcommittee Meeting 1	WSPP program map and course outlines were reviewed by the curriculum subcommittee to start the gap analysis process.	18-Sept-18

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	IT Subcommittee Meeting 2	Two web-conferencing systems were looked at – Big Blue Button and Adobe Connect. The subcommittee group reviewed all the features of both systems. The decision would be made at a later date.	19-Oct-18
	Fifth Project Meeting (hosted by Seneca)	The group discussed which colleges would be in charge of augmenting certain OHS courses – each College was assigned four. Also, the group discussed which web-conferencing system would be used to deliver the courses synchronously (i.e. either Big Blue Button or Adobe Connect). The IT Subcommittee would determine the web-conferencing system at a later date.	26-Oct-18
8	Interim Report 2	This report outlined the progress of the project as of December 1, 2018. It was submitted to ONCAT by Nadine Cervi.	01-Dec-18
9	Educational Technology Development	Completed	12-Jan-19
10	Program Development (Cambrian)	Completed	12-Jan-19
11	Program Development (Seneca)	Completed	12-Jan-19
12	Finance Subcommittee Meeting 1	Completed	21-Jan-19
13	Sixth Project Meeting (using the web-conferencing system selected, Adobe Connect)	The project team used Adobe Connect to conduct this meeting. The team discussed final action items, and created a plan to finalize the final report to be submitted to ONCAT.	22-Jan-19
14	Final Meeting (using Adobe Connect)	Cancelled	13-Feb-19

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15	Final Report to ONCAT	Completed	28-Feb-19
16	Program Approval/MOU Transfer Agreement	Completed	04-Feb-19

Note: The project team members tried to meet in person as often as possible as this method for meetings is the most effective and productive. Seneca College hosted all of the face-to-face meetings because this was the most central location for our members from Cambrian College and Lambton College; however, it was not always feasible due to travel time and conditions. In this case, the project team used the selected web-conferencing system (Adobe Connect) to conduct meetings. This was a great way to get familiar with the web-conferencing system that each College will use to delivery courses. This type of meeting was deemed best for interaction during the initial gap analysis component, and then the final review of the outcomes, syllabi and delivery modes. Additional full or partial team member meetings were also conducted by teleconference during the project as the most efficient use of people's time to keep the project moving forward.

B) Project Team Work

Please see below for short summaries on what each partner institution worked on throughout the duration of this pathway project:

Cambrian College

Cambrian was the lead for the project's Costing Subcommittee, and part of their role was to create a potential costing model for the shared delivery of the WSPP program between colleges. The Costing Subcommittee comprised of a representative from Seneca, Lambton, and Cambrian, and the group would meet several times to discuss what the costing model would look like for this particular project. The costing model is currently in progress; however, the model will be based on the following principles:

- Allocation of tuition (less a contribution to the registering College for administrative costs) across teaching contract hours in each semester.
- Core Operating Grant is excluded from this model.
- A fee per course per student will be determined based on this allocation and agreed upon prior to each semester.

Lambton College

Please see below for the four OHS courses that Lambton College has worked on and enhanced using innovative technology using Lambton's very own Design House:

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Course: OHS 1023 Occupational Health and Safety

Learning outcome covered: **Define key stakeholders/players in a workplace environment**

Activity: A gamified drag and drop exercise where students will have to match the correct player/actor with the right definition. Students achieve points for correct answers and receive a score at the end. This is a good reinforcing exercise to help students become aware of the significant roles and different individuals/groups that are relevant in a workplace safety program.

Learning outcome covered: **OHS Act**

Activity: A gamified trivia activity where students will be given a specific time limit to find the correct location of a certain act or regulation of the OHS Act (e.g. what section of the OH&S Act address the powers of the Joint Health & Safety Representatives?). Questions are in the form of multiple choice, fill-in-the-blank and drag-and-drop. This is an important reinforcing activity as it helps students become comfortable using and reading legislation as well as working with the OHS Act and Regulations.

Course: OHS 2043 Accident Prevention Theory and Investigation

Learning outcome covered: **Discuss and conduct a workplace inspection**

Activity: A virtual tour/inspection of a residential house job site. Students can navigate through the jobsite through the use of 360 images on a monitor or VR viewer and input/label the appropriate steps to conducting a workplace inspection. After navigating through the job site, learners create a list of any site issues/problems they identify in reference to the inspection process. This is a reinforcement activity for identifying the necessary steps to take when entering a job site and provides practice for completing an inspection and identifying hazards.

Learning outcome covered: **Discuss the different accident theories**

Activity: A gamified matching activity where students match scenarios and definitions to eight different accident theories. Students must discern from the given scenario or definition what the relevant accident theory would be. This reinforcement activity allows students to compare and contrast different accident theories and explain how they can be applied to a variety of situations.

Course: OHS 3013 Emergency Planning and Management

Learning outcome covered: **Name the basic elements of an emergency plan**

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Activity: Students identify the proper steps and order of a comprehensive safety plan by completing a drag-and-drop and fill-in-the-blank/rearrangement activity that consists of a series of jumbled and incomplete emergency plan diagrams. This is a 2 step activity where the first diagram outlines the development process of creating a policy, assigning a coordinator, a planning committee, conducting hazard and risk assessment, identifying the appropriate laws, regulations and creating an organizational plan with certain roles and responsibilities which further evolves into identifying the appropriate resources, including personal and equipment both internal and external. In the second step of the activity, students will develop an emergency plan for a specific industry example using drag-and-drop interactions. This reinforcement activity provides the learners the theory relevant to emergency planning as well as a practical scenario application.

Course: OHS 2023 Risk Management

Learning outcome covered: **Explaining Voluntary vs. Involuntary Risk**

Activity: Students compare and contrast the types of risk in a gamified way by identifying the risk type presented in the form of images, text scenarios and videos for a point reward. The questions are in the form of multiple choice. This is a reinforcement activity to give the learners multiple examples of various types of risk.

Learning outcome covered: **Complete a risk assessment**

Activity: Students will navigate a virtual tour of a working farm filmed using 360 degree images and video that includes scripted scenarios and workers doing a variety of different activities. Students navigate through the tour and view the scenarios and then complete a risk assessment using the 'Checklist' and 'FMEA' frameworks as well as 'What-if' scenarios. This provides the learners with practical application and simulated experience of creating a risk assessment in a low-stakes learning environment.

Seneca College

Seneca's program mapped to the Lambton program outcomes and identified equivalent courses that were already utilized in other program areas at Seneca. A Preliminary Program Proposal (PPP) was created through the Academic Chair, School of Health Sciences and the Program Quality department. The PPP was presented to the Deans Committee and was approved after a few minor adjustments. The Full Program Proposal (FPP) was developed and presented to the Deans Committee where it was

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approved to move to the next level. The Dean, Faculty of Applied Arts and Health Sciences, presented the approved FPP to the Senior Executive Committee and to the Academic Planning and Student Affairs Committee. Both committees approved and the final approval with the Board of Governors was scheduled for February 20, 2019. The program has also been approved through MTCU and CVS.

Course development for courses that were not deemed as equivalent has been completed for the Anatomy and Physiology area of study. We have secured a current full-time faculty member to start working on the development of the four core courses assigned to Seneca College. Conversations with all three partners resulted in the decision to utilize Adobe Connect as the platform to deliver the synchronous courses between all schools as there were some issues identified with Big Blue Button being compatible with the different learning management systems used by the individual colleges.

Ryerson University

A multidisciplinary team from units across Ryerson University was convened to contribute to this project. The project leads at Ryerson university were Dr. Thomas Tenkate, Director, School of Occupational and Public Health, and Charmaine Hack, University Registrar. Dr. Tenkate's role was to provide academic oversight regarding the program/courses, and Ms. Hack provided oversight in regard to university processes for admissions and transfer credits. Staff from curriculum advising, curriculum management, admissions and the Learning and Teaching Office all contributed to preparing and reviewing possible options for providing a pathway from the OHS Diploma offered by the three colleges to the OHS Degree offered by Ryerson University.

Details about the Diploma program (i.e. curriculum and course outlines) were provided by Lambton College to Ryerson University, and through meetings of the project partners, Dr. Tenkate conducted follow-up inquiries with the Colleges to gain a fuller understanding of the diploma program, its content and the way it is/was to be delivered. In addition, details of previous pathways/articulation agreements were obtained from the colleges to provide an understanding of current best-practice. Initially, a detailed 'academic review' of the diploma curriculum and a gap analysis was undertaken by Dr. Tenkate, with input from various stakeholders within the university. Based on this 'academic review,' a proposal was prepared and then a 'viability review' of this proposal was coordinated by Ms. Hack, seeking input from curriculum advising, curriculum management, admissions and the Learning and Teaching Office. Based on this review, a final pathway proposal was prepared.

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Program Comparison and Analysis

Comencing Fall 2019, a new curriculum for the 4-year degree in OHS (i.e. *Bachelor of Applied Science in Occupational Health and Safety*) will be offered by Ryerson University (see Attachment 1). A 2-year 'fast track' option for completing the degree is available for applicants who hold an undergraduate degree (see Attachment 2). The courses in the 2-year fast track option are the same 'core' courses as in the 4-year degree, but to meet accreditation requirements, there are 26 required courses in the 2-year fast track option. Students in both the 4-year and 2-year options have the same courses at the same time in the same room. This means that timetabling/scheduling of courses is a limiting factor because some of the OHS courses are also taken by the public health students, meaning that in total, 6 cohorts of students (when the co-op options are also considered) are taking a number of courses together. As such, it is difficult for students who drop or miss a course from an earlier year to make it up later due to scheduling clashes. The new curriculum for the 2-year 'fast track' degree option will commence in Fall 2020.

A course-by-course review was undertaken of the diploma program to identify alignment with courses offered in the 'new' 4-year undergraduate degree in OHS. Diploma courses for which 'credit' was deemed to be appropriate are identified in Attachments 1 & 2 by 'strikethrough' font of the course name. A course-by course summary between the degree and diploma is as follows:

Undergraduate Degree	Diploma Alignment	# Courses Needed to Complete the Degree
4 Year Degree in OHS:		
• 30 core courses	11 / 30	19
• 4 open electives	4 / 4	0
• 6 liberal studies (3 lower level, 3 upper level)	3 lower level 0 upper level	3 upper level
2 Year 'fast track' option in OHS:		
• 26 core courses	7 / 26	19
• 3 liberal studies needed prior to entry (from u/g degree)	3 lower level	0

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Based on the review of alignment between the courses offered in the diploma and those offered in the degree, it was initially proposed that the diploma students be offered a 2 + 2 arrangement. For example, they complete the 2 year diploma and then are admitted into either the following listed below:

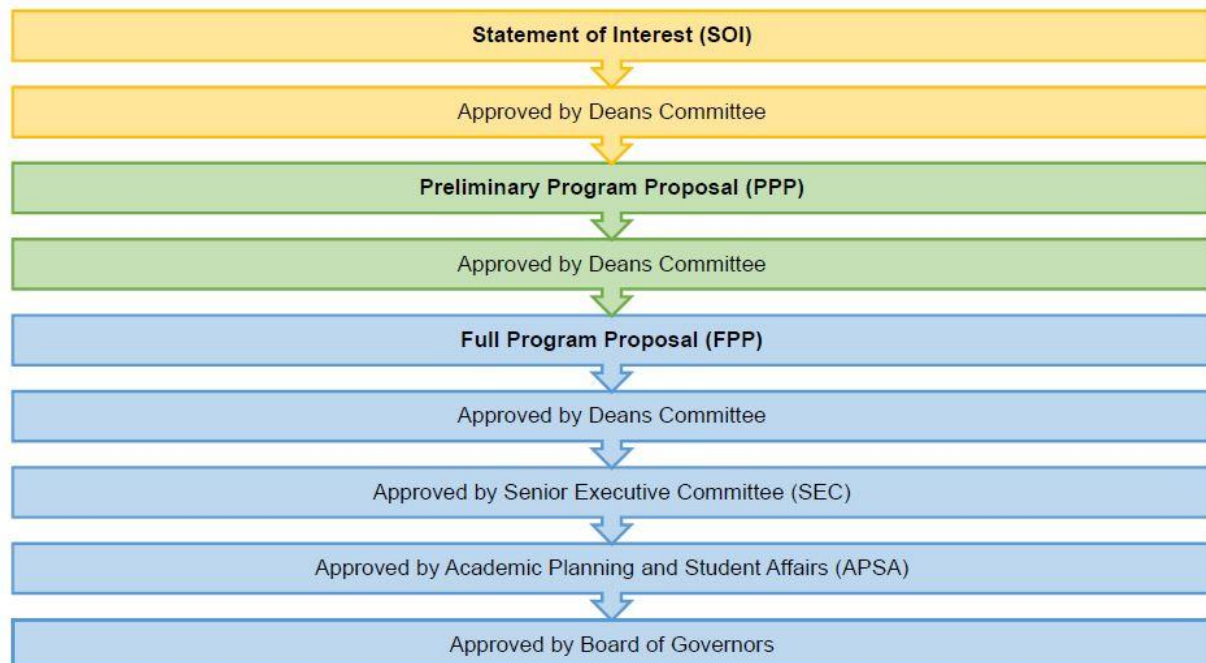
- Option 1: 3rd year of the undergraduate degree in OHS, but with a defined sequence of courses to be completed which is different to the usual 3rd and 4th years of the program.
- Option 2: the 2-year fast track option, but with a slightly revised set of courses.

Please see the “Summary of Pathway Created” template for more information about 2+2 pathway reached and Appendix A – Pathway Agreement (Draft). A formal agreement is in the process of being creating.

Implementation Process and Timelines

Please see below for the approval processes for each institution involved in this project.

Seneca – Program Approval Process



The approval process at Seneca took a bit longer than at Cambrian. There were some delays with the internal approval piece; however, the proposal for the program was accepted at the Dean’s level in

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December. The program proposal went through all the steps and committees listed above, and it was approved to start in Fall 2019.

Cambrian – Program Approval Process

Cambrian received approval in early September 2018 to run the WSPP program for Fall 2019. The process was delayed at one point at MTCU; however, the process was completed shortly after-the-fact.

Ryerson – Program Approval Process

Due to the timing of the commencement of the 'new' curriculum for the OHS degree, it is proposed that this 'pathway' arrangement be offered to diploma students starting Fall 2020.

Summary of Pathway Created

The table below provides details about the 2018-10 Workplace Safety and Prevention Partnerships and Ladder to Degree pathway development project:

PATHWAY DETAILS	
Title of Pathway: Use Official Program/Credential Titles	From: Lambton College, Seneca College or Cambrian College To: Ryerson University
Pathway Type: <i>Degree Completion, Certificate to Diploma, Diploma to Diploma, Degree to Diploma, etc.</i>	Degree Completion Pathway
List other postsecondary institution/s involved in the creation of the pathway:	The following postsecondary institutions involved in the creation of the pathway are the following: <ul style="list-style-type: none"> • Cambrian College • Lambton College • Seneca College
Pathway Implementation Date (Senate approval):	September 2020
Pathway Implementation Date (posting to the ONTransfer.ca website):	September 2020

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Contact Procedure for Pathway Implementation:	David.Simon@lambtoncollege.ca or Nadine.Cervi@lambtoncollege.ca
Eligibility for the Pathway (student eligibility for the pathway):	Eligible graduates of the Workplace Safety & Prevention Ontario College Diploma two-year program from either Lambton College, Seneca College or Cambrian College can ladder into Ryerson University's Bachelor of Applied Science in Occupational Health and Safety.
Applicant must have graduated from the program at the sending institution:	Workplace Safety & Prevention Ontario College Diploma two-year program at either Lambton College, Seneca College, or Cambrian College.
Minimum program GPA or % required to be eligible for this pathway:	GPA of 3.0. A higher GPA may be required subject to competition.
Minimum GPA or % required in specific courses	Nil
Total number of transfer credits / full courses to be granted at receiving institution (please express as a numerical proportion, i.e. 90 of 120)	Credit awarded for 18 courses out of a total of 40 courses.
Transfer Credits Granted (please describe pathway clearly and succinctly):	Diploma-to-degree students will receive a "block credit" of 18 courses from the 4-year degree and will be offered 'advanced standing' entry into the 2-year fast track option of the degree. They will be required to complete <u>19 core courses plus 3 liberal studies courses</u> (i.e. a total of 22 courses) in order to satisfy the degree requirements.
Total number of program courses that must be completed at the receiving institution in order to graduate (please express as a numerical proportion, i.e. 90 of 120):	22 program courses to be completed out of a total of 40 courses. These courses are the following: <ul style="list-style-type: none"> • Year 1, Semester 1: ENH121, ENH220, CHY152, OHS301, OHS314 • Year 1, Semester 2: OHS322, ENH440, ENH122, OHS709, upper level liberal studies elective • Year 2, Semester 1: ENH522, OHS523, ENH825, OHS509, POH705, upper level liberal studies elective Year 2, Semester 2: OHS422, OHS621, OHS623, OHS800, OHS806, upper level liberal studies elective

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Anticipated time to complete the credential if enrolled full-time:	2 years
List of eligible institutions and their programs	Lambton College: Workplace Safety & Prevention Seneca College: Workplace Safety & Prevention Cambrian College: Workplace Safety & Prevention

Promising Practices and Lessons Learned

A) Promising Practices

The purpose of this pathway project was to create a seamless pathway for our students. This was the main goal for the pathway and for the project team. Having this goal clearly stated from the start of the project allowed the team to work together in collaboration, making sure the success of this pathway was completed.

For this project, it was essential to have subcommittees. From past ONCAT projects, working with multiple institutions, we learned that there needs to be structured groups that can report back to the main project team – this vision allowed for effective conversations and for tasks to be completed on time.

Also, it was essential to have one project team member lead the administrative aspects of this project (i.e. setting meetings, completing the interim and final reports, maintaining all documents, etc.). This was the most efficient way of moving this project forward, and this really helped to reduce any types of obstacles we have all experienced in the past with funded projects.

B) Lessons Learned

Please see below for the following lessons learned (and solutions) that the project team came across during the duration of this project:

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Synchronous Delivery Platforms

Lambton College already offers a joint delivery program for their Environmental Technician – Water & Wastewater Systems Operations Ontario College two-year diploma with Northern College. Lambton College's project team members shared their current experience with this joint delivery program, and came up with some best practices and lessons learned when collaboratively delivering a program between partner institutions. Please see below for the lessons learned from this program and what solutions the WSPP project team discovered:

Communication:

It is recommended to establish a contact list for each College so everyone knows whom to contact for specific issues (i.e. Learning Management System (LMS) issues, student account issues, etc.). Regular check-in meetings are vital leading up to and throughout the first delivery of a program/course.

The host college for a program or service such as the LMS will need to include participant colleges in communications (i.e. Lambton needs to let participant colleges know when we are doing D2L maintenance or providing faculty with directions on semester-end procedures etc.).

Standardization:

Faculty need to be provided with the necessary guidance and coaching on delivering an online synchronous course. The expectation is that an online delivery needs to be more engaging than a traditional course delivery.

As much as physically and financially possible, standardization of facilities and delivery systems is beneficial to the students' success. Common LMSs and lab and multimedia facilities help to provide a consistent educational experience.

Support:

Support systems for faculty and students need to be clearly defined. For example, if Lambton College is providing LMS access to Seneca and Cambrian students and faculty, who do they go to for technical issues (can't login, course not displaying properly) and who would the faculty go to for LMS support to setup and structure a course or test in the LMS?

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Gap Analysis Lessons Learned

When completing the gap analysis for this particular project, it was important to acknowledge that a direct course-for-course credit transfer approach may not be entirely appropriate for transitioning diploma-to-degree students given the following issues: (1) not direct alignment between diploma and degree course content, and (2) the sequencing of courses in the degree means that despite awarding significant credit, this credit is likely to be spread throughout the degree, and so without a new sequence of courses for the diploma-to-degree students, they would still have to take between 3 and 4 years to complete the degree, but at a reduced workload.

Recognition of the knowledge, skills and experiences which diploma students will bring on entry into the degree, due to the focused and work-relevant training they have received, including the value of the 'field placement.'

Financial Report

The financial report for the 2018-10 Workplace Safety and Prevention Partnerships and Ladder to Degree pathway development project was submitted as a separate document to ONCAT.

Appendix A – Pathway Agreement (Draft)

Please note that a formal articulation agreement is in process. The following information below is the proposed pathway agreement.

ONCAT Project – OHS Diploma Development & Degree Pathway to Ryerson University

Prepared by: Thomas Tenkate, February 11, 2019

Proposal:

Based on the review of alignment between the courses offered in the diploma and those offered in the degree, it is proposed that the diploma students are offered a 2 + 2 arrangement, i.e. they complete the 2 year diploma and then are admitted into either:

- Option 1: 3rd year of the undergraduate degree in OHS, but with a defined sequence of courses to be completed which is different to the usual 3rd and 4th years of the program; or
- Option 2: the 2 year fast track option, but with a slightly revised set of courses.

Due to where the courses (for credit) are placed within the 4 year undergraduate degree, it is proposed that the diploma to degree students follow a course sequence which aligns with the 2 year 'fast track' option, as this addresses any issues associated with scheduling clashes of courses. The diploma to degree students would complete less courses than the standard 2 year fast track option due to receiving course credits for the following 'core' courses (of the 2 year fast track option):

- OHS 323 – Accident Theory
- OHS477 – Disability Management
- POH201 – Determinants of Health
- OHS421 – Occupational Hygiene 1
- POH407 – Environment and Emergencies
- OHS811 – OHSE Management Systems
- OHS516 – Ergonomics

However, as the diploma students have only completed 3 liberal studies electives (which I consider to be lower level liberal studies courses), they would have to complete 3 upper level liberal studies courses.

In total, the diploma to degree students would then complete 19 core courses plus 3 liberal studies courses in order to satisfy the degree requirements. This is a total of 22 courses which exceeds the 50% minimum residency requirement for Ryerson degrees. The proposed course sequence is as follows:

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Year 1	
Semester 1	Semester 2
Environmental Health Law (ENH 121)	Introductory Toxicology (OHS 322)
Pathophysiology (ENH 220)	Biostatistics (ENH 440)
Introductory Organic Chemistry (CHY 152)	Epidemiology (ENH 122)
Biological Agents (OHS 301)	Fire and Radiation Safety (OHS 709)
Physical Agents (OHS 314)	Upper Level Liberal Studies Elective
Year 2	
Semester 3	Semester 4
Research Methods (ENH 522)	Advanced Toxicology (OHS 422)
Safety Evaluation Techniques (OHS 523)	Occupational Hygiene II (OHS 621)
Risk Assessment (ENH 825)	Safety Control Methods (OHS 623)
Systems Safety (OHS 509)	Sectoral Applications (OHS 800)
Health Education and Promotion (POH 705)	Advanced Health and Safety Law (OHS 806)
Upper Level Liberal Studies Elective	Upper Level Liberal Studies Elective

Due to the timing of the commencement of the 'new' curriculum, it is proposed that this 'pathway' arrangement be offered to diploma students from Fall 2020.

Attachment 1:

'New' Program for Occupational Health and Safety – 4 year (Commencing Fall 2019)

Year 1	
Semester 1 (common to both programs)	Semester 2 (common to both programs)
Professional Practice (POH 100)	Introductory Toxicology (OHS 322) (pre-requisites: Pathophysiology ENH 220 and General Chemistry CHY 104)
Data Management (POH 103)	Biostatistics (ENH 440)
Environmental Health Law (ENH 121)	Determinants of Health (POH 201)
General Chemistry (CHY 104)	Communication in the Health Sciences (CMN 100)

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Pathophysiology (ENH 220)	Lower Level Liberal study Table A
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Year 2	
Semester 3	Semester 4
Lower Level Liberal study Table A	Epidemiology (ENH 122)
Introductory Organic Chemistry (CHY 152) (pre-requisite: General Chemistry CHY 104)	Open Elective
<i>Biological Agents (OHS 301)</i>	<i>Fire and Radiation Safety (OHS 709) (pre-requisite: Physical Agents OHS 314)</i>
<i>Accident Theory (OHS 323)</i>	Advanced Toxicology (OHS 422) (pre-requisite: Introductory Toxicology OHS 322)
Physical Agents (OHS 314)	<i>Occupational Hygiene I (OHS 421)</i>

Year 3	
Semester 5	Semester 6
Research Methods (ENH 522) (pre-requisite: Epidemiology ENH 122)	Occupational Hygiene II (OHS 621) (pre-requisite: Occupational Hygiene I OHS 421)
<i>Systems Safety (OHS 509)</i> (pre-requisite: Physical Agents OHS 314)	<i>Ergonomics (OHS 516)</i> (pre-requisites: Physical Agents OHS 314 and Pathophysiology ENH 220 or Occupational Health and Safety OHS 508)
Safety Evaluation Techniques (OHS 523) (pre-requisite: Physical Agents OHS 314)	<i>Environment and Emergencies (POH 407)</i>
Open Elective	Open Elective
Lower Level Liberal study Table A	Upper Level Liberal study Table B

Year 4	
Semester 7	Semester 8
<i>Health Education and Promotion (POH 705)</i>	<i>Sectoral Applications (OHS 800)</i>
Risk Assessment (ENH 825)	<i>Advanced Health and Safety Law (OHS 806) (pre-requisite: Environmental Health Law ENH 121)</i>
<i>Disability Management (OHS 477) (pre-requisite: Ergonomics OHS 516)</i>	<i>OHSE Management Systems (OHS 811)</i>
Upper Level Liberal study Table B	Safety Control Methods (OHS 623) (pre-requisites: Accident Theory OHS 323 & OHS 523)
Open Elective	Upper Level Liberal study Table B

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Attachment 2:

Program structure for the 2-year fast-track *Bachelor of Applied Science (Occupational Health and Safety)*

(Commencing Fall 2020)

Year 1	
Semester 1	Semester 2
Environmental Health Law (ENH 121)	Introductory Toxicology (OHS 322)
Pathophysiology (ENH 220)	Biostatistics (ENH 440)
Introductory Organic Chemistry (CHY 152)	Determinants of Health (POH 201)
<i>Biological Agents (OHS 301)</i>	Occupational Hygiene I (OHS 421)
Accident Theory (OHS 323)	Epidemiology (ENH 122)
Physical Agents (OHS 314)	<i>Fire and Radiation Safety (OHS 709)</i>
	Ergonomics (OHS 516)

Year 2	
Semester 3	Semester 4
Research Methods (ENH 522)	Advanced Toxicology (OHS 422)
Safety Evaluation Techniques (OHS 523)	Occupational Hygiene II (OHS 621)
Risk Assessment (ENH 825)	Environment and Emergencies (POH 407)
Disability Management (OHS 477)	Safety Control Methods (OHS 623)
<i>Systems Safety (OHS 509)</i>	OHSE Management Systems (OHS 811)
<i>Health Education and Promotion (POH 705)</i>	<i>Sectoral Applications (OHS 800)</i>
	<i>Advanced Health and Safety Law (OHS 806)</i>