2012-2013 Program Review
Final Report & Action Plan

Program	Medical Laboratory Technician (047) Bridging for Medical Laboratory Technology (170)
Ministry of Training, Colleges, Universities Program Descriptions	41609 61608
Credential	Ontario College Certificate Ontario College Advanced Diploma
Dean	Paul Armstrong
Associate Dean	James Humphreys
Program Review Membership	Program Manager: Mary Golba-Bylhouwer Program Faculty: Charlotte Hell, Anna Miller Curriculum Design Specialist: Lisa Pegg Institutional Research: Not Applicable
Program of Studies	2012/2013 12CE
Final Analysis Session	Spring 2013
Date of Next Program Review	2017/2018 Academic Year
Date Submitted to VPA Office	May 6th, 2013

This report represents the findings of Program Review for the Medical Laboratory cluster of programs in Continuing Education, Health Sciences. The review was performed during the period May 2012-March 2013.

This report has been prepared, reviewed, and accepted by all parties to the review, including program faculty, Curriculum Design, Institutional Research, Dean/Associate Dean, and the Vice President Academic. The signatures of the representative parties demonstrate their acceptance of the content of this report and a commitment to report on the status of action items through the Annual Program Review process.

For the Program (Dean or Associate Dean):

_____ _____

Signature   Date

For the Vice President Academic:

_____ _____

Signature   Date

Summary: Highlights

Background

This is the first formal Program Review for the Medical Laboratory Technician/Assistant (MLA) program and the Bridging for Medical Laboratory Technology (B-MLT) program, following the Mohawk College program review process. The focus of the program review is to create a benchmark curriculum mapping matrix and analysis of various metrics from an environmental scan to develop actions to maintain and/or enhance curriculum and program quality.

The MLA program maintains currency by undergoing an accreditation process with the Ontario Society of Medical Technologists every two years. This includes a review of both curriculum and faculty at Mohawk College, The Michener Institute and at Clinical Placement Sites. The MLA program is also in process for accreditation with the Canadian Medical Association (CMA), to allow graduates to write the National Certification Examination administered by the Canadian Society for Medical Laboratory Science (CSMLS). CMA accreditation will position the program well when future regulation of Medical Laboratory Technicians takes place.

The curriculum for the B-MLT has recently undergone a rigorous external review process by the CSMLS in late 2012. Bridging program courses were evaluated for currency and coverage of the CSMLS Competency Profile. As a result of this external review, Mohawk's B-MLT courses remained on the Approved Refresher list, while many other institutions had their courses removed. Internationally educated technologists are required to go through prior learning assessment recognition (PLAR) process with CSMLS, to determine what requirements must be met to become eligible to write the CSMLS National Certification Examination. Most PLAR clients are required to take approved refresher courses. For this reason, it is important to remain on the Approved Refresher list for viability of the program. CSMLS also refers many PLAR clients to the program to meet their learning needs.

Program Descriptions

Bridging for Medical Laboratory Technology (B-MLT): This **unique diploma program** is intended for internationally educated Medical Laboratory Technologists who wish to work in this role in Ontario. The program is 9 months in length and is divided into 3 semesters. The program consists of theory and laboratory sessions at the College, along with **clinical placement**. The program also includes sector-specific language courses and preparation for the CSMLS competency-based exam. Participants, in consultation with the Program Manager, may take select courses to develop a learning plan. Program applicants must go through a Prior Learning Assessment process with the Canadian Society of Medical Laboratory Science. Some of the course work may also be of interest to technologists who are trying to re-enter the work force.
(Accessed April 2013 <http://www.mohawkcollege.ca/continuing-education/bridging-medical-laboratory.html>)

Medical Laboratory Technician / Assistant (MLA): The Laboratory Technician program is offered by Mohawk College of Applied Arts and Technology in Hamilton, in partnership with The Michener Institute for Applied Health Sciences in Toronto. The didactic/theory part of the program is offered as a series of nine online courses. While you are working on your theory courses, an introduction to laboratory skills takes place during the Laboratory Basics Workshop (offered at Mohawk College). Upon successful

completion of the nine theory courses and the Laboratory Basics Workshop, you will gain further practical skills in the Clinical Skills course and Simulated Clinical (offered at the Michener Institute). Upon successful completion of the Michener Institute courses, you will consolidate your skills in a 4-week clinical placement.

Evidence from program review indicates that:

Phase 1 - Curriculum: The MLA program meets all requirements outlined in the MTCU Framework for Programs of Instruction. Through review, it has been determined that the B-MLT program learning outcomes are obsolete and the program outcomes should be updated to better reflect the currency of the program.

> *Recommendations: Maintain curriculum quality through current quality processes and procedures for the MLA program. Consider program renewal for the B-MLT program to align with current graduate requirements and with changes in the college system in regard to this program area.*

Phase 2 - Environmental Scan: There are approximately 10 Medical Laboratory programs in the Ontario college system with a variety of levels of credential, program offerings, and target markets. Course enrolment for the Mohawk MLA program has remained stable, while there was a slight decrease in course enrolment for the B-MLT program. This slight decrease may be linked to a new offering of a Bridging Program at the Michener Institute. Until this point the Mohawk Bridging Program was the only one of its kind for Medical Laboratory Technology.

> *Recommendations: Utilize the Annual Program Review process for MLA to monitor applicant, enrolment, and other trends in the college system. Implement the curriculum renewal process concurrent with a complete environmental scan for the B-MLT program.*

Phase 3 - Program Quality and Strategic Initiatives: Program mapping to strategic priorities is no longer a requirement of program review (as of Winter 2012). Alignment of assessment to course learning outcomes remains a requirement that was deferred to the 5-year action plan for this program review.

> *Recommendations: 1) Evaluate best practices in assessment and make appropriate adjustments as a result of the evaluation. 2) Utilize the Curriculum Committee and the Annual Program Review processes to monitor results of the adjustments.*

Summary: Overall Findings by Program Review Component

Phase	Component	Met	Partially Met	Not Met	Evidence
Curriculum	Course Outlines	X (047, 170)			-Course Outline Review -Programs meet requirements outlined in course outline policy.
	Curriculum Mapping Matrix	X (047)	X (170)		-047 meets requirements outlined in program review and program quality policy in keeping with MTCU framework for programs of instruction. -170 MTCU Program Learning Outcomes for this program were developed in 2002 and require renewal.
	MTCU Framework for Programs of Instruction	X (047)	X (170)		-047 meet requirements outlined in MTCU framework for programs of instruction. -170 does not meet some of the requirements outlined in the MTCU framework for programs of instruction relevant to the level of credential.
	Program Advisory Committee	X (170)	X (047)		-PAC meeting minutes -PAC policy
Environmental Scan	Provincial Survey for Continuing Education			X (047 170)	-There is no established way of acquiring student satisfaction data. When implemented, response rates were low.
	Applicant/ Enrolment	X (047, 170)			-Applicant/Enrolment data stable over several years.
	Student Success	X (047, 170)			-Student success and graduation rates stable over time for those students who complete the full program

Program Quality and Strategic Priorities	Curriculum Content Flexible Delivery Flexible Operationally Experiential Learning Applied Research Entre/ Intrapreneurship Sustainable Curriculum Sustainable Practices PLAR Learning Plans eLearn Student Feedback about Progress	X X X X X X X			-Data capture and analysis of these components are under review in the program review process. -The program area has locally developed best practices in regard to the items in this section. -eLearn includes utilizing functionality of ContactNorth for course delivery
	Rethinking Assessment				-deferred to 5-Year Action Plan
	Program Level Assessment Alignment				-Not Applicable for CE programs

Summary: Commendations, Affirmations and Recommendations

Commendations

There are a number of areas that the programs demonstrate best practices and leadership in regard to program quality, innovation and student success.

1. The national certification body, Canadian Society for Medical Laboratory Science (CSMLS) refers clients who completed a Prior Learning Assessment Recognition (PLAR) to Mohawk's B-MLT program. An individualized learning plan is developed for each student based on the external PLAR.
2. Comprehensive curriculum review has been completed by CSMLS. Mohawk College's B-MLT courses were identified as meeting the high standards of CSMLS. Other colleges were required to renew course curriculum.
3. The success rate for Mohawk Bridging Students, who are Internationally Educated Medical Laboratory Technologists (IEMLTs), is 80 – 100% on the first time writing of the CSMLS National Certification Exam (as compared to a 20 – 40% pass rate for IEMLTs that prepare for the exam in an alternate fashion).
4. Mohawk College's program was established in 2002 and has sustained enrolment. Other Bridging Programs for Medical Laboratory Technology have been cancelled.
5. Blended-Learning is a foundation of success for these programs. The functionality of web conferencing using ContactNorth has improved the success rates of students in program courses. Use of video conferencing has also improved success rates.
6. Successful acquisition of three grants from the Ministry of Citizenship and Immigration for expanding distance education opportunities and simulated clinical experiential learning opportunities.
7. Mohawk's program was one of the first to receive Ontario Bridging Participants Assistance Plan (OBPAP) bursary funding for Bridging MLT
8. A unique partnership has been developed with Diagnostic Services Manitoba (DSM), to deliver online courses to IEMLTs that are employed as technicians in DSM. Mohawk provides onsite elearn and program orientation in Winnipeg; lab intensive portion of program is conducted at Mohawk. Students obtain clinical placements in Manitoba.
9. The Medical Laboratory Technician Program undergoes Accreditation with the Provincial Certification Body every two years and is currently in process for Canadian Medical Association Accreditation.
10. The Medical Laboratory Technician Program is offered in partnership with the Michener Institute, which allows for a greater catchment area for this program.
11. These programs are part of the first group of Continuing Education (CE) Health Science Programs to undergo the Program Review Process

Affirmations

Affirmations are declarations, which may/may not have evidence as a result of program review that the program faculty identify as areas required to support program quality improvements. The areas identified include:

1. Room bookings: CE offerings have limited access to rooms during the day.
2. Limited on site lab facilities. Labs are run at Fennell campus; this requires the use of additional technical staff. Currently, the program manager transfers lab equipment to and from Fennell site.
3. Turnaround time for login information to reach student from registration area is too lengthy. Students are unable to access elearn in a timely fashion.
4. There is difficulty in acquiring and sustaining high-quality committed faculty due to the instructor compensation rates in CE. External grants have enabled program faculty to participate in professional development and course enhancements over and above basic compensation.
5. The support for data management is limited and makes retrieval of information for program tracking or program review labour intensive.
6. There is a lack of consultation when changes are made in full-time areas:
   a. The college needs to utilize the expertise of CE program managers
   b. Establishment of data collection methods for CE are needed
   c. Implementation of iClickers did not include CE courses or programs
7. The programs do not have a full-time program manager
8. The program manager completed requirements of course outlines relevant to CORE and the course outline policy.
9. The program manager completed requirements of curriculum mapping for essential employability skills (EES). However, due to CORE issues, the system does not allow extraction of data for analysis EES.
10. The clinical placement process needs further support since laboratories do not use HSP Net (as is the case for nursing programs).

Recommendations

Analysis of various data sources from program review identified some action items area that will assist in maintaining the quality and student satisfaction of the program. They are:

Curriculum

Bridging-Medical Laboratory Technology (B-MLT)
- Utilize the program modification process to align the B-MLT program with potential opportunities, new pathways, and ensure curriculum compliance to MTCU program learning outcomes.
- Consider the impact of external PLAR process and impact on graduation rates for this program.
- Map PLAR competencies to renewed program learning outcomes to ensure compliance to graduate skills.
  - Consult with Credential Validation Services to address gaps in program learning outcomes, delivery and PLAR to ensure compliance to MTCU requirements.

Medical Laboratory Assistant/Technician (MLA)
- Maintain curriculum quality and currency through the annual program review process.
  - Work with Michener Institute Subject Matter Experts (SME) to map 3 courses to the MLA program learning outcomes.
- Explore potential pathways for graduates of the MLA program.

B-MLT and MLA
- Facilitate SCD sessions with current students, recent graduates and employers to assess curriculum and employment opportunities relevant to the new vocational standards.
  - Several SCD sessions are planned for Spring 2013 and Fall 2013 in order to further explore variability in curriculum with competitor colleges, to explore variability in scaffolding and laddering of curriculum, and to explore curriculum strengths and challenges.
- Complete and analyze data from a Competitive Curriculum Analysis to support curriculum renewal, specifically for the B-MLT program, and other programming opportunities and pathways for both programs.
- Review current PAC structure for B-MLT and assess opportunities for representatives for the MLA program to be members of the PAC.

Environmental Scan
- Advocate for a robust internal information management and reporting system for ministry credentialed CE programs. In comparison to post-secondary data analysis of enrollment, this data is captured and maintained at the program level which is resource intensive and time consuming.
- Complete a comprehensive Competitive Curriculum Analysis (CCA) for this program area to determine pathways and opportunities for program development in this program area.

Program Quality
- Evaluate best practices in assessment and make appropriate adjustments as a result of the evaluation.
- Utilize the Curriculum Committee and the Annual Program Review processes to monitor results of the adjustments.

Resources

Program Review Phases	Source	File Name	Date Completed/ Accessed	Used (Y/N)
Phase 1: Curriculum	Course Outline Review	Not available	Deferred to 5-Year Action Plan	N
	Curriculum Mapping Matrix (CMM)	047 170 Curriculum Mapping Matrix.xls	Winter 2013	Y
	Competitive Curriculum Analysis (CCA)	Not available	Deferred to 5-Year Action Plan	N
	Program of Studies (POS)	047-POS 12CE.pdf 170-POS 12CE.pdf	September 2012	Y
	Vocational Standards (VS)/ Program Description	41609 047 Program Description.pdf 61608 170 Program Description.pdf	Revised 2008 Developed 2002	Y
	Focus Group Notes	170 Focus Group Notes.pdf	February 2013	Y
	PAC Minutes	170 PAC Meeting Minutes Dec 2012.pdf 170 PAC Meeting Minutes May 2012.pdf	December 2012 May 2012	Y
	Credentials Framework	047 170 Credentials Framework.pdf	Winter 2013	Y
	POS Trend Analysis	Not Required		N
	Program System Matrix	Deferred to 5-Year Action Plan		N
	Pathways Graphic	See Pathways Section of Report	January 2013	Y
	Other (e.g. accreditation letters etc.)	OSMT Accreditation Certificate (attached)		Y
Phase 2: Environmental Scan	Provincial Survey for Continuing Education	Not available		N

	Surveys	Not Applicable		N
	Competitive Program Profile	Not Available	Deferred to 5-Year Action Plan	N
	Student Success and Retention	Student Success and Retention.pdf		Y
	Labour Market Demand	See Labour Market Section of Report	Spring 2013	Y
	Program Job Search			N
	Applicant vs. Registrant analysis	047 170 Enrolment.xls	Fall 2012	Y
	Student Entrance survey	Not Applicable		N
	Employment Profile	See Employment Section of Report	Spring 2013	Y
	OSAP Default Rates	Not Applicable		N
	Assessment for Success	Not Applicable		N
Phase 3: Quality Processes	Program Quality	Not Applicable		N
	Strategic Activities	Not Applicable		N
	Re-Thinking Assessment		Deferred to 5-Year Action Plan	N
	Program Level Assessment Mapping	Not Applicable		N
Supporting Policies	Course Outline Policy		Accessed Winter 2012 via: http://www.mohawkcollege.ca/about/policies/CorpSect5.html	Y
	Program Review Policy		See Policy	Y
	Program Quality Policy		See Policy	Y
	Program Advisory Committee		See Policy	Y

	Prior Learning and Recognition			N
	General Education			N
	Program of Studies			N
	Academic Scheduling			N
Supporting MTCU Framework documents	Framework for Programs of Instruction		Accessed Winter 2013 via: http://www.accc.ca/ftp/es-ce/MTCUCollegeFramework.pdf	Y
	Essential Employability Skills		See Framework for Programs of Instruction	Y
	General Education		See Framework for Programs of Instruction	Y
	Credentials Framework		See Framework for Programs of Instruction	Y

Curriculum: Summary

Overview

Phase 1 of program review was designed to develop and analyze a Curriculum Mapping Matrix which links course curriculum to program learning outcomes, essential employability skills and external standards (where applicable). Curriculum mapping is a ministry requirement that provides evidence of curriculum compliance to the program learning outcomes. Through focus groups, external stakeholders such as employers, graduates of the program and current students are also involved in this phase of program review.

Definition of Learner

The Bridging Program for Medical Laboratory Technology provides opportunities for Internationally Educated Medical Laboratory Technologists to gain eligibility to write the National Certification Examination by completing refresher courses. The program also provides domestic graduates with an opportunity to refresh their skills in order to re–enter the Medical Laboratory profession. Applicants are admitted into the program upon completion of a prior learning assessment with the Canadian Society for Medical Laboratory Science, or in consultation with the Regulatory College in the case of domestic graduates. An individual learning plan is developed for each student based on prior learning and experience. As a result, students may not be required to complete the full program of studies but only the courses required to upgrade skills.

The Medical Laboratory Technician Program provides opportunities for individuals that meet program pre-requisites, to obtain the skills necessary to practice as a Medical Laboratory Technician in Ontario. Graduates of the program are eligible to write both the National and Provincial Certification Examinations for Technicians, the standard recognized by employers.

Highlights
- The MLA program is compliant with all aspects of the MTCU Framework for Programs of Instruction.
    - The Curriculum Map provides evidence that courses in the Medical Laboratory Technician/Assistant (MLA) program map to program outcomes.
    - Curriculum Mapping provides evidence that courses in the Medical Laboratory Technician program map appropriately to the Canadian Society for Medical Laboratory Science external standards.
- The B-MLT program is not compliant with many aspects of the MTCU Framework for Programs of Instruction. Curriculum in the program has been regularly updated and reflects industry trends and expectations as outlined by the Competency Profile of the national body CSMLS. The curriculum also went through an external review process by CSMLS in 2012, to examine currency and compliance to the National Standards and the curriculum received approval. However, the program learning outcomes as outlined and approved by the MTCU Framework and program descriptions are out of date which is impacting the curriculum map for this program.
    - The Curriculum Map for the Bridging for Medical Laboratory Technology (B-MLT) program indicates that the program learning outcomes are too diverse and do not provide an accurate depiction of curriculum quality. The program learning outcomes for the B-MLT program were last updated in 2002 and do not reflect outcomes-based education.

- It is difficult to determine the general education requirement of this credential based on the external PLAR assessment completed by the Canadian Society for Medical Laboratory Science (CSMLS).
- There is evidence to indicate that this program is not aligned with current college system trends (i.e. nomenclature around pathways versus bridging) and potential opportunities in this field.

Background
- Phase 1 of Program Review for the Medical Laboratory Program cluster was completed by the Program Manager and Program Faculty through participation in the Spring 2012 program review workshops with continued adjustments through to Winter 2013.

Recommendations

Bridging-Medical Laboratory Technology
- Utilize the program modification process to align the B-MLT program with potential opportunities, new pathways, and ensure curriculum compliance to MTCU program learning outcomes.
- Consider the impact of external PLAR process and impact on graduation rates for this program.
- Map PLAR competencies to renewed program learning outcomes to ensure compliance to graduate skills.
  - Consult with Credential Validation Services to address gaps in program learning outcomes, delivery and PLAR to ensure compliance to MTCU requirements.

Medical Laboratory Assistant/Technician
- Maintain curriculum quality and currency through the annual program review process.
  - Work with Michener Institute Subject Matter Experts (SME) to map 3 courses to the MLA program learning outcomes.
- Explore potential pathways for graduates of the MLA program.

B-MLT and MLA
- Facilitate SCD sessions with current students, recent graduates and employers to assess curriculum and employment opportunities relevant to the new vocational standards.
  - Several SCD sessions are planned for Spring 2013 and Fall 2013 in order to further explore variability in curriculum with competitor colleges, to explore variability in scaffolding and laddering of curriculum, and to explore curriculum strengths and challenges.
- Complete and analyze data from a Competitive Curriculum Analysis to support curriculum renewal, specifically for the B-MLT program, and other programming opportunities and pathways for both programs.
- Review current PAC structure for B-MLT and assess opportunities for representatives for the MLA program to be members of the PAC.

Curriculum: Mapping Analysis--Bridging for Medical Laboratory Technology (170)

Overview

A Curriculum Mapping Matrix (CMM) is developed based on links between course curriculum and program learning outcomes, essential employability skills and external standards (where applicable). The CMM provides program areas with data in order to make decisions about curriculum, scaffolding/ laddering and breadth, depth and complexity of student experience with the curriculum.

Recommendations
- Utilize the program modification process to align the B-MLT program with potential opportunities, new pathways, and ensure curriculum compliance to MTCU program learning outcomes.
- Consider the impact of external PLAR process and impact on graduation rates for this program.
- Map PLAR competencies to renewed program learning outcomes to ensure compliance to graduate skills.
  - Consult with Credential Validation Services to address gaps in program learning outcomes, delivery and PLAR to ensure compliance to MTCU requirements.

Course Level Links to Program Learning Outcomes

Depth and Breadth of Learning Summary
An analysis of the CMM shows students are exposed to all program learning outcomes (PLOs) for the B-MLT program which is a *possible* indication of breadth of learning.

There are 22 PLOs and 24 courses in the Program of Studies (POS) which is impacting the quality of the curriculum map, resulting in a map that is highly dispersed and difficult to analyze for depth and breadth.

Curriculum Mapping Matrix
Program Learning Outcomes (2012 12CE POS)
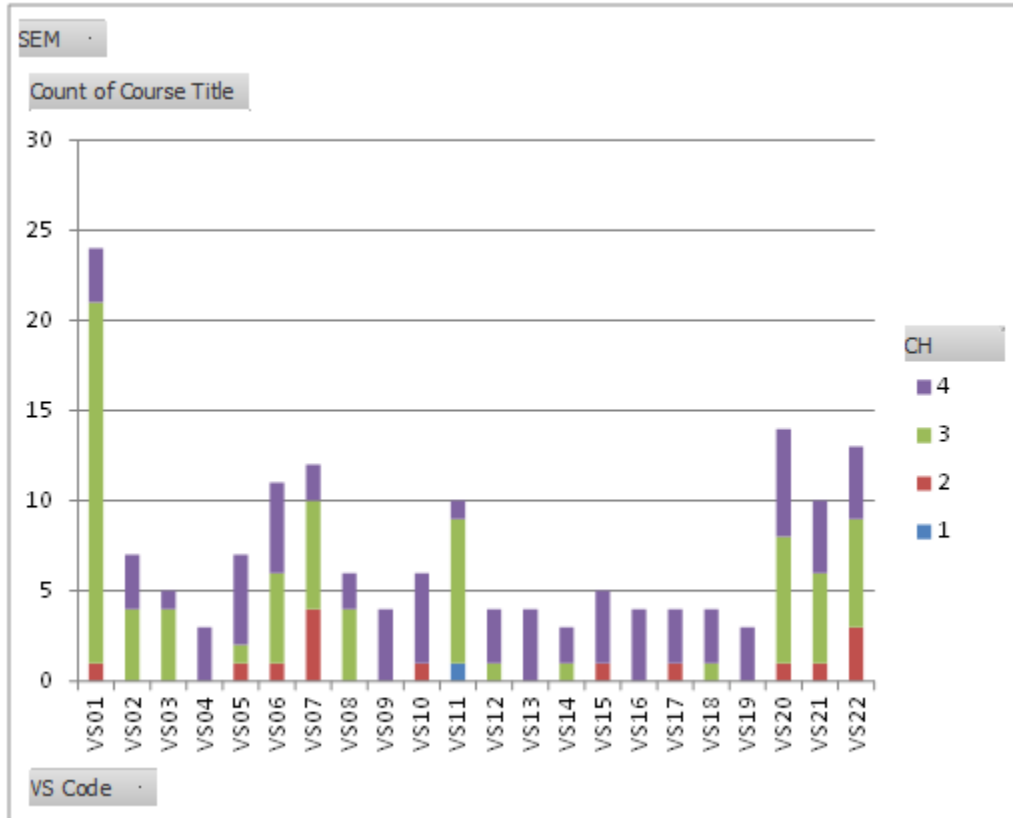
Curriculum Mapping Matrix: External Standards (Deferred to 5-Year Action Plan)

Curriculum Mapping Matrix: Essential Employability Skills

Unable to Assess: *the Mohawk College Curriculum Overview, Research and Evaluation (CORE) database is unable to extract Essential Employability Skills mapping due to a technological error in the programming. Program Faculty completed the mapping requirements for this MTCU requirement but due to the technological issues with CORE the data cannot be analyzed.*

Compliance: Framework for Programs of Instruction – Advanced Diploma		√,?,X
Scope: Depth, Breadth and Complexity	• Meets all specific Vocational Outcomes as defined by the provincial program standards • Analysis, Diagnosis, Design, planning, execution and evaluation across a broad range of functional and management functions which involve significant technical leadership or guidance functions • Most weighting placed on depth versus breadth • Applications involve personal responsibility, autonomy in performance, working in teams	?
Essential Employability Skills	• Basic fundamental personal management and teamwork skills • Depth of achievement consistent with EEs outcomes *NOTE: the Mohawk College Curriculum Overview, Research and Evaluation (CORE) database is unable to extract Essential Employability Skills mapping due to a technological error in the programming. Program Faculty completed the mapping requirements for this MTCU requirement but due to the technological issues with CORE the data cannot be analyzed.*	**Unable to Assess**
General Education	• Exposure to at least ONE discipline outside field of study • Access to 3-5 courses designed discretely from vocational standards • Further Action Required: Consult with Credential Validation Service in regard to this requirement for the B-MLT program	**?**

Typical Duration	• Approximately, six semesters or 1800-2100 equivalent instructional hours
	   • POS as of Fall 2012 was 1324 hours, which is lower than the minimum recommended
	   • Further Action Required: Consult with Credential Validation Service in regard to this requirement for the B-MLT program
		🗨

Admissions Requirement	Program applicants must go through a Prior Learning Assessment process with the Canadian Society of Medical Laboratory Science. Some of the course work may also be of interest to technologists who are trying to re-enter the work force. (Accessed April 2013 <http://www.mohawkcollege.ca/continuing-education/bridging-medical-laboratory.html> **ENGLISH ASSESSMENT:** Applicants, for whom English is a second language, must pass the English assessment test. To ensure that you are ready for the tests, try the following sample tests: Skimming and Scanning For Information , Practice Reading Comprehension Test (Accessed April 2013 <http://www.mohawkcollege.ca/continuing-education/bridging-medical-laboratory.html>)	X

Curriculum: Mapping Analysis--Medical Laboratory Technician

Overview

A Curriculum Mapping Matrix (CMM) is developed based on links between course curriculum and program learning outcomes, essential employability skills and external standards (where applicable). The CMM provides program areas with data in order to make decisions about curriculum, scaffolding/ laddering and breadth, depth and complexity of student experience with the curriculum.

Through program review, it was determined that the courses in the MLA program map appropriately to the PLOs. Three courses offered through the Michener Institute were not mapped which may address some of the gaps in regard to scaffolding and laddering.

Recommendations
- Maintain curriculum quality and currency through the annual program review process.
- Work with Michener Institute Subject Matter Experts (SME) to map 3 courses to the MLA program learning outcomes.
- Explore potential pathways for graduates of the MLA program.

Course Level Links to Program Learning Outcomes

Breadth of Learning Summary
An analysis of the CMM shows students are exposed to all program learning outcomes (PLOs) for the MLA program which is an indication of breadth of learning.

Program Learning Outcomes
- 7/8 PLOs have an adequate number of course level links from a broad range of courses in the program of studies.
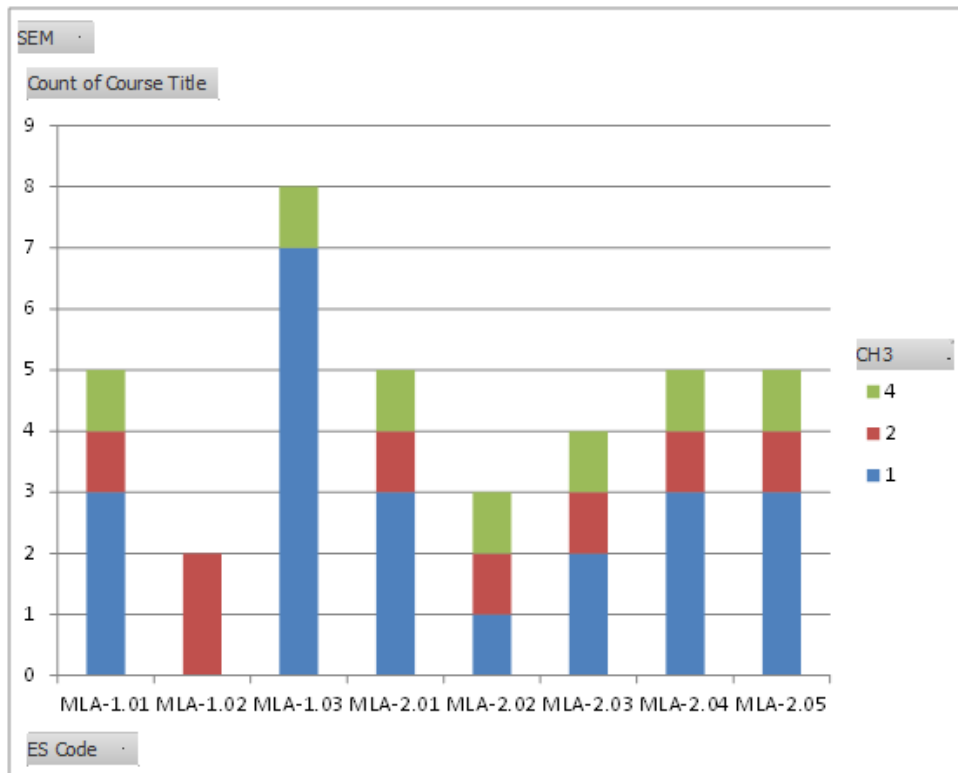
External Standards
- 7/8 External Standards have an adequate number of course level links from a broad range of courses in the program of studies.

Curriculum Mapping Matrix: Breadth of Learning
Program Learning Outcomes (2012 12CE POS)
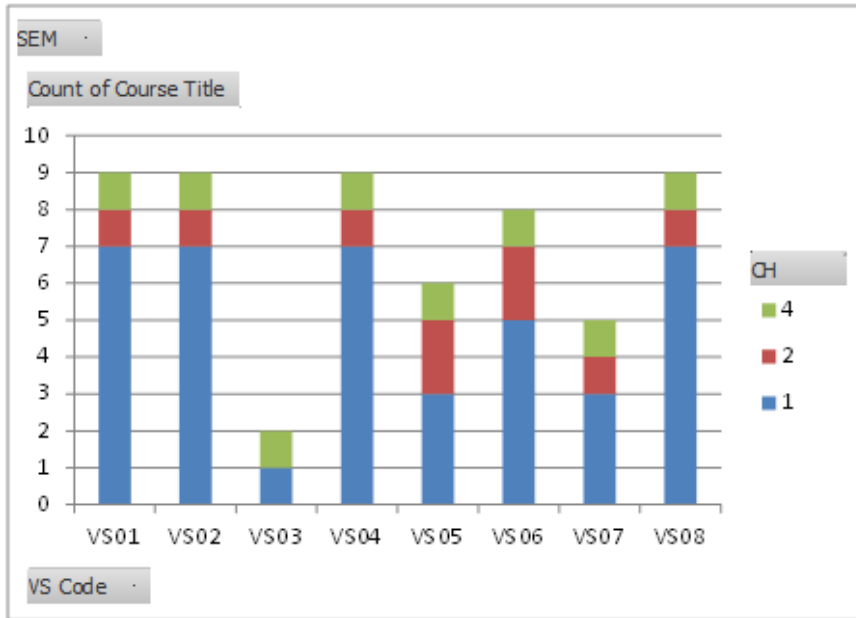
Curriculum Mapping Matrix: Breadth of Learning
External Standards (2012 12CE POS)

Curriculum Mapping Matrix: Essential Employability Skills

Unable to Assess: *the Mohawk College Curriculum Overview, Research and Evaluation (CORE) database is unable to extract Essential Employability Skills mapping due to a technological error in the programming. Program Faculty completed the mapping requirements for this MTCU requirement but due to the technological issues with CORE the data cannot be analyzed.*

Course Level Links to Program Learning Outcomes

Depth and Complexity of Learning Summary
An analysis of the CMM shows students are exposed to most program learning outcomes (PLOs) for the MLT program at various levels of scaffolding and laddering, with the majority of focus on developing foundational skills which is appropriate for an Ontario College Certificate.

NOTE: Three courses delivered by the Michener Institute were not mapped to the program learning outcomes.

Program Learning Outcomes
- Approximately 70% of total course level links to PLOs are characterized as contributing to a mild (1) degree to graduates' ability to demonstrate the outlined skill or ability which is appropriate considering the credential--Ontario College Certificate.

    - Mapping the three Michener courses will benefit this analysis and contribute to a better understanding of graduate skills upon completion of the program and may address gaps in scaffolding and laddering.
- Analysis of course level links to program learning outcomes by semester or by course characterization is not applicable for this program

External Standards
- Approximately 60% of total course level links to the CSMLS external national standards are characterized as contributing to a mild degree to graduates ability to demonstrate the outlined skill or ability which is appropriate considering the credential--Ontario College Certificate.

Characterization of Linking by Program Learning Outcome

Count of Course Title	Column Labels			
Row Labels	1	2	4	Grand Total
VS01	7	1	1	9
VS02	7	1	1	9
VS03	1		1	2
VS04	7	1	1	9
VS05	3	2	1	6
VS06	5	2	1	8
VS07	3	1	1	5
VS08	7	1	1	9
Grand Total	40	9	8	57

Characterization of Linking by External Standard

Count of Course Title	Column Labels			
Row Labels	1	2	4	Grand Total
MLA-1.01	3	1	1	5
MLA-1.02		2		2
MLA-1.03	7		1	8
MLA-2.01	3	1	1	5
MLA-2.02	1	1	1	3
MLA-2.03	2	1	1	4
MLA-2.04	3	1	1	5
MLA-2.05	3	1	1	5
Grand Total	22	8	7	37

Compliance: Framework for Programs of Instruction

Scope: Depth, Breadth and Complexity	• Meets all specific program learning outcomes as defined by the MTCU program description • Perform in a range of varied activities involving known routines and some accountability for outcomes. • Applications are clearly defined and complexity is limited • Preparation for further post-secondary education	√
Essential Employability Skills	• Basic fundamental communication, personal management and teamwork skills • *NOTE: the Mohawk College Curriculum Overview, Research and Evaluation (CORE) database is unable to extract Essential Employability Skills mapping due to a technological error in the programming. Program Faculty completed the mapping requirements for this MTCU requirement but due to the technological issues with CORE the data cannot be analyzed.*	Unable to Assess
General Education	• Locally determined • Recommendation by MTCU to provide breadth of learning outside of vocationally specific courses	**Not Required**
Typical Duration	• Approximately two semesters or 600-700 equivalent instructional hours • POS as of Fall 2012 was 562 POS hours (excluding the Michener Courses) which is slightly lower than the hours recommended by MTCU.	√

Admission Requirements	Ontario Secondary School Diploma (OSSD) or equivalent, with the following subjects at a general level:
	    • English - grade 12 general level
	    • Mathematics - grade 12 general level
	    • Chemistry - grade 11 general level or higher
	Academically qualified applicants may be interviewed and/or tested. Applicants for whom English is a second language must submit proof that they have written and passed the Test of English as a Foreign Language (TOEFL) with a minimum score of 600.
	
	Pasted from <http://www.mohawkcollege.ca/Page1584.aspx>
		√

Credential	Ontario College Certificate	√

Curriculum: Strategic Curriculum Discussion

Overview

Various stakeholders for the program are invited to attend a Strategic Curriculum Discussion (SCD) in regard to curriculum, essential skills for an entry level position, trends in the industry, graduate employment, and experiential learning opportunities.

Highlights

- 14 individuals from the B-MLT program attended one discussion session and provided *some* insight into the strengths, challenges, opportunities and threats of the program (see below).
- Due to timing with academic schedules and student availability, specifically students in the MLA program, facilitating an SCD was not feasible at the time of review and is deferred to the 5-Year Action Plan

Recommendations

- Facilitate SCD sessions with current students, recent graduates and employers to assess curriculum and employment opportunities relevant to the new vocational standards.
    - Several SCD sessions are planned for Spring 2013 and Fall 2013 in order to further explore variability curriculum with competitor colleges, to explore variability in scaffolding and laddering of curriculum, and to explore curriculum strengths and challenges.

Strengths, Challenges, Opportunities, Threats (SCOT)

Note: the following SCOT is based on input from 14 students in the B-MLT program and should be reviewed with caution.

Strengths
- Combinations of courses taken at same time reinforce learning of content
- Professors are working in the field and use real examples and case studies to support content development
- PLA deadline is based on Individual Learning Plan. Students have a 2-year timeline to complete requirements of ILP.
- Networking
- Getting regular feedback.
- Blended-Learning courses through ContactNorth. "If I miss anything can always go back to the class because it was recorded. Interaction with teacher in Contact North was interactive. Allow questions and answers. "
- Simulated laboratory is helpful because haven't been in practice for 7 years. Program Manager Input: need to schedule labs around availability of lab at FF campus
- Access to Bursary.
- Need labs to get placement.
- Simulated lab compressed into 1 week. Simulated course is complementary to other courses

Challenges
- Administrative support required to meet and respond to student requests.
    - getting schedules 2 or 3 days before. Have family issues to consider and travel issues for a 2 or 3 hour class.
    Program Manager Input: students receive base timetable well in advance of class.
    Timetable doesn't change but content may change.
- Technology issues with on-line courses
    -1 student—online classes issue with contacting instructor. Takes instructor a while to get back to students.
    -Sometimes technology gets cut-off and is disruptive.
- Lab equipment at Fennell appears to be out of date in comparison to Michener.   Students do get an opportunity to utilize new technology through a workshop at Michener Institute. NOTE: It was reported at the Town Hall Meeting for the Budget that a significant amount of money will be allocated to updates to laboratories.
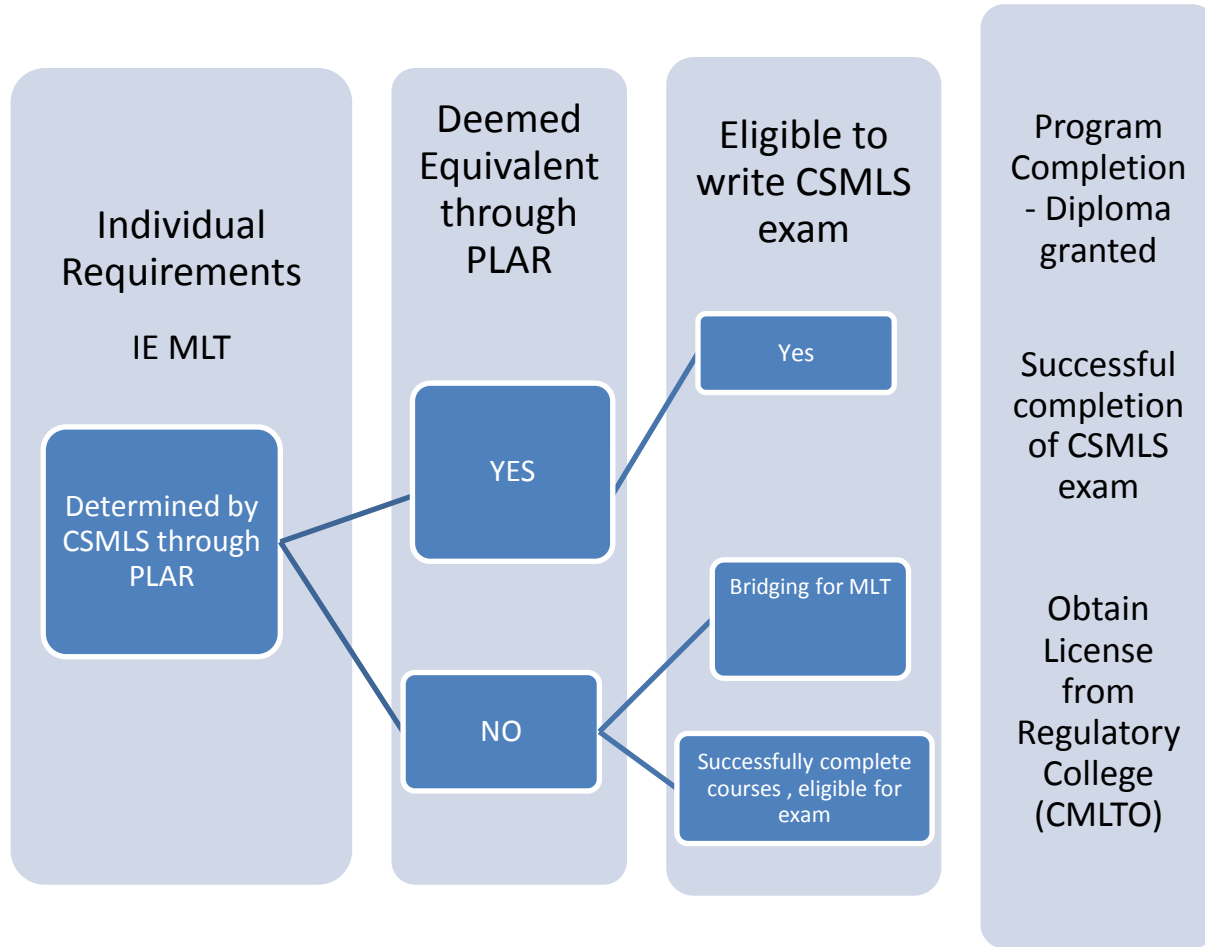
Opportunities
- Need more time in simulated lab, especially for hematology. Need at least 1 week for each course. In hematology did not have enough time to do smears. Spend more time on trying to get work done rather than understanding.
- Course structure needs to be more organized. Timing, placement. Certain students waiting for clinical sites on Thursday in preparation for Monday.
    - Program Manager Input: some clinical sites cancelled at last minute and some students do not want to go to a recommended clinical site for personal reasons. Two actions are being taken to help students 1) ready to travel and working shifts--have students sign a contract re: understanding these expectations; 2) Developing a video for students re: expectations, lab environment, how to prepare.
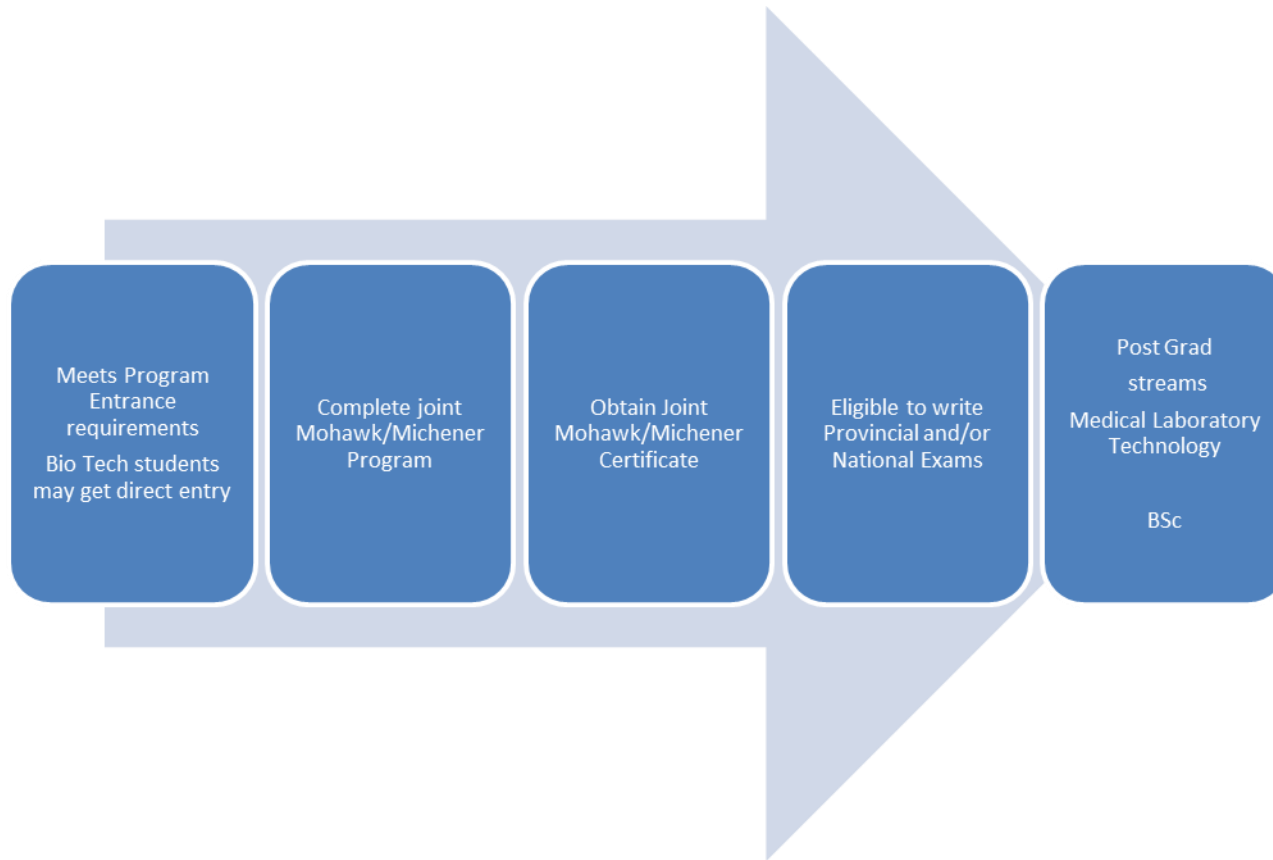- Follow-up and link to issues with Field Placement

Threats
- No threats identified

Curriculum: Pathways

Bridging Program for Medical Laboratory Technology

Individual Requirements	Deemed Equivalent through PLAR	Eligible to write CSMLS exam	Program Completion - Diploma granted
IE MLT			Successful completion of CSMLS exam
Determined by CSMLS through PLAR	YES	Yes	
	NO	Bridging for MLT	Obtain License from Regulatory College (CMLTO)
		Successfully complete courses , eligible for exam	

Medical Laboratory Technician

Meets Program Entrance requirements

Bio Tech students may get direct entry

Complete joint Mohawk/Michener Program

Obtain Joint Mohawk/Michener Certificate

Eligible to write Provincial and/or National Exams

Post Grad streams

Medical Laboratory Technology

BSc

Curriculum: Partnerships and Affiliations

Partnerships

The Bridging Program for Medical Laboratory Technology has forged a unique partnership with Diagnostic Services Manitoba (DSM). The goal of this partnership is to help IEMLTs working as technicians in the over 70 labs administered by DSM to achieve licensure as MLTs. This is achieved by a combination of an initial on site visit by Mohawk College in Manitoba to provide a program and elearn orientation and begin course delivery. Students then continue with on line studies throughout the Fall semester. The students then come to Ontario for a five day lab intensive session. Following course work, students return to Manitoba to complete a clinical placement. This program is funded through a government grant that DSM receives and is run as a cost recovery program.

The Medical Laboratory Technician Program also has a unique partnership for delivery of the program. Mohawk College offers 8 theory courses, one practical course and administers the clinical placement portion of the program, while the Michener Institute offers one theory course and two practical courses that prepare the students for placement. This partnering allows students to practice practical skills in an up to date laboratory facility.

Affiliations

Not applicable for this program

Curriculum: Competitive Curriculum Analysis

A Competitive Curriculum Analysis (CCA) provides program areas with a comparison and snapshot of program characteristics, admissions and program of studies for other colleges in the system with the same program. The CCA is useful to program areas for validation of the program characteristics, admissions and program of studies, as well as data to identify opportunities for improvements to the program

Highlights
- None. See recommendations.

Recommendations
- Complete and analyze data from a Competitive Curriculum Analysis to support curriculum renewal, specifically for the B-MLT program, and other programming opportunities and pathways for both programs.

Curriculum: Program Advisory Committee

Overview
Assessment of the efficacy and currency of the Program Advisory Committee (PAC) is required based on criteria established in the Program Advisory Committee Policy.

Highlights
- PAC for the B-MLT program met a minimum of 2 times in 2012
- PAC membership has been updated in last 6 months
- PAC membership is comprised of a sufficient cross-section of internal and external stakeholders
- There is no PAC for the MLA program. There was representation for MLA on the overall CE Health Sciences Committee which was primarily comprised of representatives for nursing.
  - Representatives for the MLA program will be invited as guests to the B-MLT PAC meeting.

Recommendations
- Review current PAC structure for B-MLT and assess opportunities for representatives for the MLA program to be members of the PAC.

Environmental Scan: Summary

Overview

Phase 2 of program review analyzes several data sources such as Provincial Survey for Continuing Education and applicant/enrolment data from internal, locally developed information sources.

Highlights

- There are 4 colleges with an MLA program in the College system, most of which are established programs starting prior to 2002--Mohawk, Northern, St. Lawrence and St. Clair. Northern College's program started in 2010.
- It appears as though Mohawk is the only college offering the B-MLT program. However, there have been significant changes in the college system for Medical Laboratory Technology programs, with 6 colleges cancelling programs over a long period of time.
    - St. Clair and St. Lawrence have started Medical Laboratory Science programs (date undetermined). The program title may indicate a trend in industry.   St. Clair and St. Lawrence offer both technician level and technology level programs and the Medical Laboratory Science terminology is used to reflect the variety of programming available.
- Average course enrolment for the MLA program has ranged from 19 (Fall 2009 and Fall 2011) to 25 (Fall 2010 and Fall 2012)
- Average course enrolment for the B-MLT program has decreased from Fall 2010 (16) to Fall 2012 (10). Michener attempted to start a bridging program in Fall 2012, which impacted enrolment in Mohawk's program. The Michener program is no longer running.
- Due to the nature of the PLAR process via an external body (CSMLS), it is difficult to determine graduation rate for the B-MLT program.
- Student Satisfaction data is difficult to acquire.

Recommendations

- Advocate for a robust internal information management and reporting system for ministry credentialed CE programs.
- Complete a comprehensive Competitive Curriculum Analysis (CCA) for this program area to determine pathways and opportunities for program development in this program area.

Environmental Scan: Competitive Overview

Overview

In Ontario, there are 10 Medical Laboratory programs in the college system offered through a variety of delivery models, most specifically continuing education and distance education.

Highlights

- 4 colleges (Cambrian, La Cite, St. Lawrence and St. Clair) offer the Medical Laboratory Technology Ontario College Advanced Diploma program (MTCU 61609) as a post-secondary offering with some variations in model of delivery and experiential learning opportunities.

    o Mohawk College is the only college offering the B-MLT program (MTCU 61608) through Continuing Education.

- 6 colleges (Centennial, Confederation, Mohawk, Northern, St. Lawrence, St. Clair) offer the Medical Laboratory Assistant/Technician Ontario College Certificate program (MTCU 41609) Program.
    o Mohawk College is the only college offering the MLA program as a part-time distance education delivery.
    o Mohawk College's MLA program is offered through on line learning, and on site practical courses offered at Mohawk College and the Michener Institute. Clinical training takes place in numerous sites throughout Ontario.
    o The B-MLT program was piloted via distance education with applicants from Manitoba through Diagnostic Services Manitoba (DSM). This program is run as a cost recovery activity and DSM receives external funding to support their employees through this training process. DSM has also received an award for this unique partnership.
    o The B-MLT offers the majority of the courses in the program through on line learning supported with live webinar sessions. Enrollment in distance education sections has grown and is often equal to the in classroom enrollment.

Recommendation

- Complete a comprehensive Competitive Curriculum Analysis (CCA) for this program area to determine pathways and opportunities for program development in this program area.

Environmental Scan: Enrolment and Student Success

Overview
Internal Mohawk College continuing education enrolment data and locally developed market demand data and labour market trends are used to analyze the Medical Laboratory programs.

Highlights
- Average enrolment in the various courses for the B-MLT program has decreased from Fall 2010 (16) to Fall 2012 (10).
  - Fall 2012 enrolment was impacted by an initial intake at the Michener Institute. The Michener program has been cancelled for Fall 2013.
- Average enrolment in the various courses for the MLA program has remained relatively stable.
- Bridging Program Graduates have an 80 – 100% success rate on their first attempt at writing the National Certification examination, vs. a 20 – 40% pass rate for Internationally Educated Technologists that prepare for examination through alternate routes. Students may write the certification examination 3 times and if they are unsuccessful, must establish a learning plan with CSMLS to become eligible to write again. Many applicants to the program are individuals that had not been in the Bridging Program previously, but are now trying to re-establish exam eligibility by taking the Bridging Program.

Recommendations
Advocate for a robust internal information management and reporting system for ministry credentialed CE programs. In comparison to post-secondary data analysis of enrollment, this data is captured and maintained at the program level which is resource intensive and time consuming.

Retention and Graduation
Bridging MLT data is easier to capture since the students that take the full Bridging Program do in most cases graduate as cohort. Graduation rate for the participants of the full program is high at 90 – 100% levels. Participants that take select courses to complete learning plans for CSMLS will register for and complete courses, and as a result retention is high for course enrollment with student success in the select courses running at an average of 80%.

Data for the Medical Laboratory Technician Program is difficult to capture, due to the fact that students that start in a particular cohort may move through their studies at a different pace, which for many students is seen as a positive. Students generally complete the program in a 3 year timeline.
Data for the Winter 2010 cohort shows a 37% completion rate and 36% still actively pursuing studies. This seems to be a fairly representative picture of retention and completion. Data for Fall 2009 showed a higher completion rate of 42% with 32 % remaining active.

These statistics were compiled from enrollment numbers and graduation rates.

Environmental Scan: Student Satisfaction

Student Satisfaction for these programs is difficult to acquire. The Program Manager reports that students are emailed a survey for each course in regard to their learning experience with low response rates. As well, the Provincial Survey for Continuing Education is not used for Distance Education programs.

Recommendation
- Advocate for a robust internal information management and reporting system for ministry credentialed CE programs

Environmental Scan: Employment and Labour Market Demand

Overview
A variety of external sources indicate that there is a looming Human Resource shortage in the Medical Laboratory Sector.

- The Canadian Institute for Health Information has a comprehensive database that looks at employment information in the seven provinces that have regulated health care in Canada. Ontario has an average age of 48 years for Medical Laboratory Technologists, the highest average age of all the regulated provinces. 30.5 % of the Medical Laboratory Technology (MLT) workforce in Ontario is 55 years and older. Ontario has the highest percentage of workers in this age cohort when compared to the other regulated provinces.
- Greater than 10% of the MLT workforce in Ontario is comprised of Internationally Educated Technologists.
- Research conducted Arthur Sweetman, PhD (Ontario Research Chair in Health Human Resources at McMaster University) echoed a number of the same findings at a Fall 2012 Summit for Laboratory Leaders. Dr. Sweetman commented on the fact that there is a large aggregate of laboratory workers ready to retire and that the MLT workforce tends to retire "on time".
- Human Resources Development Canada reports that the outlook for Medical Technologists and Technicians for the period of 2011 – 2020 will not have enough job seekers to fill job openings. Job openings in this field will increase due to expansion in the health care sector and retirements.
- 60 % of Graduates of the October 2012 Bridging for Medical Laboratory Technology Program have obtained full time employment with another 20% reporting active interview processes going on. Medical Laboratory Technician employment data is difficult to capture since students don't complete the program as a cohort and survey responses are always low.

Recommendations
None

Quality and Strategic Priorities: Summary

Overview

Phase 3 of program review is under revision in order to meet new strategic priorities, PQAPA requirements and the Academic Plan requirements. The Re-Thinking Assessment and Assessment Alignment is still required for Phase 3.

Highlights
- Not completed. See below.

Recommendations
- Evaluate best practices in assessment and make appropriate adjustments as a result of the evaluation.
- Utilize the Curriculum Committee and the Annual Program Review processes to monitor results of the adjustments.

Program Quality Action Plan

Objectives	Action Strategies	Timelines	Responsibility	Status
Short Term (within the next 18 months)				
Advocate for a robust internal information management and reporting system for ministry credentialed CE programs.	CE Associate Deans have met, and a project charter established to: - Automate recruitment efforts through the Marketing department - Automate communications around program changes through Academic departments - Automate graduation clearing through the Registrar's office. Part of this project will necessitate better tracking of CE students, which should provide needed data for analysis	Ongoing	AD	In Progress
Consider the impact of external PLAR process and impact on graduation rates for this program.	a. Facilitate Strategic Curriculum Discussions with current students and recent graduates to assess curriculum and employment opportunities relevant to the new vocational standards. • Several focus groups are planned for Fall 2013 in order to further explore variability curriculum with competitor colleges, to explore variability in scaffolding and laddering of curriculum, and to explore curriculum strengths and challenges based on the two streams of the program --Creative and Business. b. Consider revisions to course names and descriptions to align with comparator colleges and industry input.	2013/2014	Program Team, Program Quality	Not Started
Facilitate SCD sessions with current students, recent graduates and employers to assess curriculum and employment opportunities relevant to the new vocational standards.	a. Organize sessions b. Report on results c. Align with program modification (see below)	2013/2014	Program Team, Program Quality	In Progress
Assess composition and administration of Program Advisory Committee for this program area.		2013/2014	Program Team	In Progress
Work with Michener Institute Subject Matter Experts to map 3 courses for the MLA		2013/2014	Program Team	Not Started

program				
Evaluate best practices in assessment and make appropriate adjustments as a result of the evaluation.	Arrange for program faculty to attend a Re-Thinking Assessment workshop facilitated by the Program Quality team	2013/2014	Program Team, Program Quality	Not Started
Medium Term (within the next 18-36 months)				
Utilize the program modification process to align the B-MLT program with potential opportunities, new pathways (including MLA), and ensure curriculum compliance to MTCU program learning outcomes.	○ Establish a strategic plan for implementation of this action plan. Include other programs in the CE Health Sciences cluster with similar actions (RN/RPN refresher) ○ Explore potential pathways for the MLA program within and between other colleges ○ Utilize the expertise of the Institutional Research department to provide data pertinent to this analysis. ○ Map PLAR competencies to renewed program learning outcomes to ensure compliance to graduate skills. ● Consult with Credential Validation Services to address gaps in program learning outcomes, delivery and PLAR to ensure compliance to MTCU requirements. ○ Complete a comprehensive Competitive Curriculum Analysis (CCA) for this program area to determine pathways and opportunities for program development in this program area.	TBD	AD/ PQ team/ Institutional Research	Not Started
Monitor short-term and medium-term program quality enhancements and adjust as required for the MLA program	Maintain curriculum quality and currency through the annual program review process.	TBD	AD	Not Started
Long Term (within the next 36-60 months)				
Monitor short-term and long-term program quality enhancements and adjust as required	Utilize Annual Program Review process to monitor program quality enhancements.	To be determined pending outcome of medium term objectives		Not Started
	Plan and prepare for Comprehensive Program Review	Spring 2017	AD	Not Started

Ontario Society *of*
Medical Technologists

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234 Eglinton Avenue East, Suite 402
Toronto, Ontario M4P 1K5

March 26, 2013

Ms. Mary Golba-Bylhouwer
Program Manager- MLA Program
Mohawk College - Hamilton
Continuing Education, 1400 Main St. W.
Hamilton, ON L8S 1C7

Dear Ms. Golba-Bylhouwer:

We are pleased to inform you that Mohawk College - Hamilton Campus' full-time "Medical Laboratory Assistant/Technician" program renewal application has been reviewed by the Medical Laboratory Assistant/Technician (MLA/T) Certification Committee and approved for the years 2013 and 2014.

Please note that all programs require renewal every two years and your next application will be due in the Fall of 2014. Renewal applicants do not require a site visit but all schools are subject to a site visit at discretion of the OSMT. A site visit will be required if a school relocates its premises or makes any significant physical changes to the teaching environment. The OSMT must be notified of any changes in premises or faculty that occur during the course of the program.

Enclosed is a certificate for your approved program. On behalf of the Committee and the Board, I convey our best wishes for a successful program that will enable lab assistant/technician students to achieve MLA/T certification and become qualified members of the laboratory team.

Sincerely,

Shari Batson, ART, B.Sc.
Chair, MLA/T Certification Committee

cc: Allan Scott
    Superintendent of Private Career Colleges
    Private Institutions Branch
    Ministry of Training, Colleges & Universities

Ontario Society of Medical Technologists
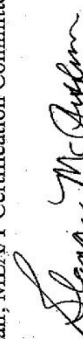
This is to certify that

MOHAWK COLLEGE - HAMILTON CAMPUS

MEDICAL LABORATORY ASSISTANT/TECHNICIAN PROGRAM (FULL-TIME)

is approved by the Ontario Society of Medical Technologists

Certificate valid from January 1, 2013 to December 31, 2014

_____
Chair, MLA/T Certification Committee

_____
Executive Director

January 1, 2013
Dated