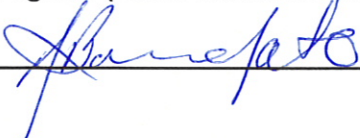


Program Review Final Report

Program	728 Cardiovascular Technology
Ministry of Training, Colleges, Universities Vocational Standard	51612
Credential	Ontario College Diploma
Dean	Paul Armstrong
Associate Dean	Diane Barrafato
Program Review Membership	Diane Barrafato, Associate Dean Lori Koziol, Acting Associate Dean Rajinder Virk, Coordinator David Darling, Professor Carmelinda Del Conte, Research and Planning Analyst Catharine Ozols, Curriculum Design Specialist Lisa Pegg, Curriculum Design Specialist Peggy French, Educational Designer
Program of Studies	2009/10
Final Analysis Session	June 22, 2011
Date of Interim Status Report	June 2013
Date of Next Program Review	2016
Date Submitted to VPA Office	October 3, 2012

For the Program (Dean or Associate Dean):

Signature  _____ Date Oct. 3, 2012

For the Vice President Academic:

Signature _____ Date 

Overall Findings by Program Review Component

Program Review Phase	Program Review Component	Met	Partially Met	Not Met	Evidence
Phase One Curriculum	Course Outlines	✓			CORE
	Curriculum Mapping Matrix	✓			Appendix 4a & 4b
	Framework for Programs of Instruction	✓			Appendix 3
	Program Advisory Committee	✓			Given the specialized and complementary nature of the programs, CVT and DCS share a PAC
Phase Two Environmental Scan	Key Performance Indicators	✓			Appendices 10, 11, 12
	Program Performance Indicators		✓		Appendix 13 - incomplete data for graduate employment
	Applicant/Enrolment	✓			Appendix 9
	Student Success and Retention (Course Grades)	NA			Current data not available at time of analysis
Phase Three Program Quality and Strategic Initiatives	Quality—Curriculum and Content	✓			Appendices 14 & 15
	Quality—Flexible Delivery	✓			
	Quality—Flexible Operationally	✓			
	Quality—Experiential Learning	✓			
	Innovation—Applied Research	✓			
	Innovation—Entre/ Intrapreneurship	✓			
	Sustainability--Curriculum	✓			
	Sustainability--Practices	✓			
	PLAR	✓			Appendix 16
	Learning Plans	✓			
	eLearn	✓			
	General Education	✓			
	Student Feedback on Progress	✓			

Summary of Findings

Introduction

Launched in 2006, the Cardiovascular Technology (CVT) 2 year diploma program helps students acquire knowledge and skills necessary to perform cardiovascular tests and assist physicians in cardiac diagnosis. With their clinical experience, students are well prepared to work in hospitals, health care services, cardiology and diagnostic centres, cardiac rehabilitation, and for product manufacturers. Graduates can further their education in the field of cardiac diagnostics by applying for admission to the graduate certificate program in Diagnostic Cardiac Sonography offered by Mohawk College and are eligible to write the Canadian Society of Cardiology Technologists registration exam.

As one of only two CVT programs in the Ontario college system, applications to the program (500+ for Fall 2011) far exceed the 50 seats available for 1st year students each year. The program has 2 full time professors, Rajinder Virk and David Darling, as well as several part time faculty.

Although program reviews often take between 12-18 months, the CVT Program Review took place over an extended period of time, beginning in Summer 2008 and ending Summer 2011. The course outline review and CLinking were completed in Summer 2009 in preparation for Program Accreditation. The remainder of program review was put on hold until after the accreditation was finished. After the site visit, program review resumed and was completed in Summer 2011.

The following summarizes findings from each phase of program review.

Phase 1- Curriculum

The 2009/10 CVT program of studies was compliant with the Canadian Society of Cardiology Technologists National Occupational Competency Profile (CSCT NOCP) and also met Credentials Framework guidelines for diploma programs including General Education requirements.

Faculty, graduates, and current students noted that CVT is a demanding program in terms of the amount of content that needs to be covered to meet the CSCT NOCP. Within the constraints of a 2 year program, it is difficult to incorporate new content that is not in the CSCT NOCP but which reflects the expanding role of the cardiology technologist (e.g. ankle-brachial index (ABI) testing, spirometry, assisting with nuclear stress tests, and stress echo). It is also difficult within the current POS to provide extra lab time during which students can apply their knowledge and hone their skills before going into the clinical setting (e.g. metabolic stress testing). None-the-less, focus group participants and survey results confirmed that graduates of the program are currently well prepared and able to perform in the role of the cardiology technologist. The program and its graduates are well regarded in the industry.

Phase 2 - Environmental Scan

Mohawk's CVT program has traditionally had a strong applicant pool and, for Fall 2010, was the first choice program of almost 33% of applicants to the program. Student and graduate satisfaction with the program continues to be high and program faculty have been able to build placement partnerships throughout the province. With the launch of the St. Clair CVT program in Fall 2011, and Everest's increasing activity in CVT training, Mohawk's program is facing increased competitive pressure for students and placements, a situation which will need to be monitored.

KPI results for specific questions suggest that program faculty should look for ways to incorporate additional opportunities for students to improve their writing, presentation, computer, and math skills. They should also reinforce the importance of feedback on performance with PT faculty and employ strategies such as rubrics and common terminology for feedback (i.e. label it feedback about your

progress)

Phase 3-Program Quality and Strategic Initiatives:

CVT is a strong program with established quality and student success practices. The program is compliant with Gen Ed policy, has established PLAR requirements for each course in the POS, has learning plans for most courses, and is moving toward integrating either web facilitated or blended learning elements into most courses. Additionally, it is closely aligned with two of the Key Strategic Priorities - Sustainability (in faculty practice and course delivery) and Quality - Experiential Learning. There is some Flexibility of Delivery in many courses and this is anticipated to increase as courses move into a more web facilitated or blended format. There may be resource roadblocks that slow the move toward web facilitated and blended learning for those courses taught by part time faculty.

CVT shares an Advisory Committee with Diagnostic Cardiac Sonography and, given the overlap in profession between stakeholders in the two fields, will continue to do so but with an expanded membership to ensure diversity and wider geographic representation.

Commendations

There are a number of areas that the CVT program demonstrated best practices and leadership. They are:

- Ensuring student, graduate, and employer satisfaction as reflected by consistently high KPI scores and backed up by comments by students, graduates, and employers in the focus group and surveys
- Incorporation of experiential learning into almost 80% of courses through hands on practice, real world labs, case studies, simulations, and clinical placements
- Adoption of eLearn for flexible delivery of CVT courses, including providing the opportunity for students to access content and choose various assessment types, as well as the use of online quizzes and drop box

Affirmations

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

- Continue to refine clinical requirements supporting consistent learning and evaluation experiences for students.
- Strengthen ties with clinical partners in view of increased competition (e.g. St Clair, private colleges)

Recommendations

The detailed recommendations that evolved from each phase of program review are summarized below.

- Develop, in collaboration with clinical partners, a manual that has a set of defined standards and expectations for what students should accomplish while on clinical placements.
- Determine whether room can be made within the existing program of studies to:
 - Include additional content in the program (e.g. ABI testing, spirometry, nuclear stress tests, and stress echo)
 - Explore strategies to maximize lab time for hands-on practice as well as create additional lab practice opportunities (e.g. ECG, spirometry, Holter scanning and metabolic stress testing)
 - Provide additional opportunities for students to improve their writing, presentation, computer, and math skills
- Monitor competitor's applicant, registrant, and KPI data, as well as activity that could affect applicant demand and placement opportunities
- Reinforce the importance of feedback on performance strategies
- Investigate increased and effective use of web facilitation and blended learning as courses transition to eLearn.
- Expand Program Advisory Committee by increasing the representation from a diversity of stakeholders and geographic locations.

5 Year Program Quality Enhancement Action Plan

Objectives	Action Strategies	Timelines	Responsibility	Status
Short Term (within the next 18 months)				
Monitor impact of St Clair's new CVT program planned to launch Fall 2011	Request data from MTCU	August/ September 2011	Program Quality	Complete MTCU contacted. (1) Does not provide PDI information on programs from other colleges. (2) Will deal with St. Clair website information.
	Perform competitive curriculum/PLO analysis with new program at St. Clair and compare clinical requirements (i.e. total # of hours) and when	August/ September 2011	CD/CVT Team	
	Review potential impact of new program timing and use of clinical placements with Mohawk affiliated clinical partners	August/ September 2011	CVT Team	
	Confirm in September that St. Clair's new program is running and the confirmed enrolment	August/ September 2011	Institutional Research	
	In response to sufficient enrolment numbers at St Clair, send letter to managers/directors within affiliated sites to maintain and solidify relationship	Fall 2011	Associate Dean	
Respond to Accreditation Criterion 5.3 Comments	Produce final Program Review Report and high level Executive Summary	Summer 2011	CD Team	Complete
	Provide requested evidence.	Summer 2011	CVT Team	
Complete CMA Conjoint Accreditation Services Template 6 on an annual basis	Update Template 7 annually	Annually	CVT Team with support from IR and CD as required	
Continue transition to eLearn@Mohawk	Transition Year 2 courses in a predominantly web enhanced format	Summer/Fall 2011	CVT/ eLearn/Library Team	
Enhance course content	Access or create instructional audiovisual materials and case studies for skill courses to assist student learning	Spring/Summer 2012 - ongoing		
Enhance program of studies	Review and revise POS as necessary, to enhance competencies of graduates as per program review findings.	Fall 2011 - ongoing	CVT Team	
Provide input into CSCT NOCP update	Share the results of the CVT focus group session and online survey with the CSCT and provide input during revisions to the CSCT NOCP (National Occupational Competency Profile).	Fall 2011 & ongoing	CVT Team	

Build stronger linkages with placement and graduate employers	Explore networking opportunities with graduates to obtain and share information	Ongoing	CVT Team/Alumni Office	
	Profile our graduates to employers (see Advertising graduate bios)	Ongoing	CVT Team/Marketing	
Prepare for CMA Accreditation	Maintain course documents and data in preparation	Ongoing	CVT Team/CD Team/ IR	
Medium Term (within the next 18-36 months)				
Perform ongoing program of studies enhancement	Review and revise POS as necessary, to enhance competencies of graduates as per program review findings.	Summer/Fall 2012	CVT Team	
	Research ways in which to increase lab hours	Summer/Fall 2012	CVT/CD Team	
Perform ongoing curriculum enhancement	Re-develop at least one course in a blended delivery model	Summer 2012 & 2013	CVT/ eLearn/Library Team	
	Integrate new or enhanced content	Summer 2012/13		
Develop CVT professional development opportunities to be offered via Continuing Education	Review focus group and survey results	Summer 2012/13	CVT Team	
	Perform additional research with industry and the professional association	Summer 2012/13	CVT /IR Team	
	Collaborate with CE AD for development and marketing	Summer 2012/13	CVT/CD Team	
Continue to refine clinical requirements supporting consistent learning and evaluation experiences for students.	Review student clinical feedback	Ongoing	CVT Team/PAC/other external stakeholders	
	Maintain clinical site database	Ongoing		
	Consult with other programs, clinical partners to develop guidelines	Summer 2012/13		
Strengthen links with the Cardiology community, especially in the areas of Cardiac Rehab and Cardiac Device Management.	Explore research project with industry and clinical partners.	Summer 2012/13	CVT Team	
increase employability of graduates especially for high end positions, such as Management, Education, and Clinical Application Specialist	Increase degree completion opportunities for CVT graduates	Summer 2013/14	CVT team/ Articulation Office/ Registrar's Division, Pathways to Learning	
Investigate the potential to increase enrolment in the program in the medium term (i.e. next 1-3 years)	Offset the increased number of graduates continuing their education, the increase applicant demand, the reduction of private programs in the region and the employment demand for graduates.	Fall 2012/13	CVT Team/ IR	

Long Term (within the next 36-60 months)				
Investigate formation of collaborative provincial group of CVT educators (i.e. Heads of)		Summer 2014	Associate Dean	
Investigate a Graduate Certificate Program for CVT graduates (OGC)	Consult with PAC and other external stakeholders	2013/2014	CVT/CD Team	
	Establish program learning outcomes with the Credentials Framework requirements for a Graduate Certificate	TBD(if applicable)	CVT/CD Team	
	Predict financials for OGC	TBD(if applicable)	AD/Finance	
Prepare for Program Review and CMA Accreditation	Maintain requirements for CMA Accreditation	Annually	CVT Team	
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		
	Submit interim program quality report to Program quality area			
	Plan and prepare for Comprehensive Program Review	Spring 2016		