The Credential Validation Service (CVS) Handbook for New Program Submissions and Program Modifications

Published: February 2021
# Table of Contents

Table of Contents ................................................................. 2  
Using This Handbook ........................................................................ 4  
About this Handbook ...................................................................... 4  
Applying for Validation ..................................................................... 4  
Glossary of Terms and Acronyms .................................................... 5  
Contact ......................................................................................... 5  
About CVS .................................................................................... 6  
Responsibilities and Regulatory Requirements ................................... 6  
Mission and Vision ......................................................................... 6  
CVS Accountability .......................................................................... 6  
Ontario Qualifications Framework .................................................. 8  
Provincial Program Standards .......................................................... 9  
Program Descriptions ...................................................................... 9  
CVS Submission Overview ............................................................... 11  
Submission Validation ...................................................................... 11  
Submission Outcomes, Communication & Documentation .................. 13  
New Program Proposals ................................................................... 15  
Proposal Components ...................................................................... 15  
New Program Proposal .................................................................... 15  
Program Modifications Submissions ............................................... 18  
Program Title Modifications ............................................................. 18  
Program Content Modifications ....................................................... 19  
Funding Status ................................................................................. 20  
Submission Withdrawals ................................................................... 21  
Resources and Support ..................................................................... 21  
Appendix A – New Program Proposal Details .................................. 22  
Considerations for Aligning/Mapping to MTCU Codes ..................... 22  
Program Titles ................................................................................. 24  
Funding Requests ............................................................................ 25  
Program Description/Program Purpose ............................................ 25  
Admission Requirements ................................................................... 25
Occupational Areas ........................................................................................................... 27
Laddering Opportunities .................................................................................................... 27
Vocational Learning Outcomes (VLOs) ........................................................................... 28
Program Curriculum .......................................................................................................... 30
VLO Mapping .................................................................................................................... 31
Essential Employability Skills (EES) Mapping ................................................................. 32
Accrediting Bodies and Other Program Regulatory Requirements .................................... 32
Appendix B – MTCU Code Mapping Exercises .................................................................. 33
  Example Mapping to 1 MTCU Code .............................................................................. 33
  Example Mapping to 2 MTCU Codes ........................................................................... 35
Appendix C – Adding VLOs to Support Title Modifier ....................................................... 38
Using This Handbook

About this Handbook

This Handbook was created to guide Ontario Colleges through the Credential Validation Service (CVS) validation process for new programs and modifications to existing programs.

The intended audience for this Handbook is college personnel who are directly involved with new program and program modification submissions for validation. Resources intended for subject matter experts or other stakeholders can be found on the Ontario College Quality Assurance Service (OCQAS) website.

This Handbook was created by the CVS team and was enhanced by feedback and input from stakeholders within the College system.

This Handbook addresses only the criteria and processes for a CVS validation. Inquiries about funding submissions or other Ministry related information should be directed to the Postsecondary Unit, Ministry of Colleges and Universities (MCU). Inquiries about degree level submissions should be directed to the Postsecondary Education Quality Assurance Board (PEQAB).

This Handbook will be updated annually as required to ensure its alignment with the expectations in the Ontario College system. It is the responsibility of the reader to ensure that they are referencing the current version.

Applying for Validation

Validation is required for any college that seeks to:

1. Offer a new Ontario College Certificate (OCC), Ontario College Diploma (OCD), Ontario College Advanced Diploma (OCAD), or Ontario College Graduate Certificate (OCGC) program, regardless of the program’s funding source.
2. Modify an existing program falling under the above credentials. Parameters for determining which modifications will result in a request for validation are outlined in Table 2: Type of Program Modification on page 12.

All new validation requests must be submitted through the online tool, CVS AA Tool. To request an account, go to the log in page of the CVS AA Tool.
Legislation Considerations

Please be aware that the information submitted to CVS is collected pursuant to the Freedom of Information and Protection of Privacy Act; Post-secondary Education Choice and Excellence Act, 2000; Minister’s Binding Policy Directive; and all other relevant legislation.

Glossary of Terms and Acronyms

Terms

Proposals – Refers to documents submitted for new validation requests
Modifications – Refers to documents submitted for existing programs
Submissions – Refers generically to both proposals and modifications

Acronyms

APS – Assigned Program Sequence
BOG – Board of Governors
CVS – Credential Validation Services
EES – Essential Employability Skills
OCQAS – Ontario College Quality Assurance Service
VLO – Vocational Learning Outcomes
OQF – Ontario Qualifications Framework
OBE – Outcome Based Education
MCU – Ministry of Colleges and Universities

Contact

The CVS is committed to transparency in all interactions with stakeholders. Should you have additional question and/or require additional support, we encourage you to review the CVS resources found on the website or contact CVS via email.
About CVS

Responsibilities and Regulatory Requirements

The CVS provides timely validation of programs of instruction to Ontario’s colleges, which supports every college’s ability to respond swiftly to community and employer needs.

The CVS is consistent with the requirements of the Ministry of Colleges and Universities’ Binding Policy Directive, *Framework for Programs of Instruction*, and *Admissions Criteria*. The mandate of the CVS, given by government, includes:

- providing reasonable assurance that all programs of instruction, regardless of funding source, conform to the established Credentials Framework and are consistent with accepted college system nomenclature and/or program titling principles; and,
- maintaining the integrity of the credentials and protecting the interests of students and employers who require a reasonable guarantee of consistency and quality in Ontario’s programs of instruction.

The CVS follows an outcomes-based credentialing model, which guarantees that colleges work to educate students in full accordance with pre-established outcomes required for each Ontario College credential. The Credentials Framework represents the *minimum* provincial requirement for credentials awarded and applies to all programs of instruction, regardless of funding source.

Mission and Vision

The CVS operates under the OCQAS umbrella and the mission and vision statements apply to all services provided by the OCQAS:

**Vision** - To provide guidance and direction to improve the overall excellence of postsecondary education as we move Ontario’s colleges to a standard of accreditation recognized on the global stage.

**Mission** - To deliver credential validation and quality assurance processes for the public college system in Ontario to assure students, graduates, employers and the public of the quality of the system’s comprehensive programs and services.

CVS Accountability

In the spirit of continuous improvement, OCQAS engages in a CVS review every five to seven years to identify achievements and gaps in the service and makes any necessary adjustments.
The CVS service review is designed to engage the multiple stakeholders throughout the Ontario college system in a comprehensive examination of the service.
Ontario Qualifications Framework

The Ontario Qualifications Framework (OQF) details the “knowledge and skills (learning outcomes) which each credential or qualification (e.g., certificate, diploma, bachelor, masters, or doctoral degree) is intended to achieve.” (Ministry of Colleges and Universities, 2021, para. 1). For full details please review the OQF online. For Ontario colleges, CVS’ validation (new programs and program modifications) for Ontario College Certificates (OCC), Ontario College Diplomas (OCD), Ontario College Advanced Diplomas (OCAD), Ontario College Graduate Certificates (OCGC), and Apprenticeships is required.

Colleges seeking new program validation are required to align to an existing MTCU code where possible. If this is not possible, alignment to two codes is permitted, under unique circumstances, were new MTCU codes are created by the MCU. Table 1 provides an overview of the MTCU codes by credential, associated hours, and typical number of semesters.

Table 1. MTCU Codes Parameters

<table>
<thead>
<tr>
<th>MTCU Codes</th>
<th>Ontario College Credential</th>
<th>Hours Range</th>
<th>Total Semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Locally Board Approved Certificate</td>
<td>240 – 500</td>
<td>Locally determined</td>
</tr>
<tr>
<td>40000</td>
<td>Ontario College Certificate (OCC)</td>
<td>600 – 700</td>
<td>2</td>
</tr>
<tr>
<td>50000</td>
<td>Ontario College Diploma (OCD)</td>
<td>1,200 – 1,400</td>
<td>4</td>
</tr>
<tr>
<td>60000</td>
<td>Ontario College Advanced Diploma (OCAD)</td>
<td>1,800 – 2,000</td>
<td>6</td>
</tr>
<tr>
<td>70000</td>
<td>Ontario College Graduate Certificate (OCGC)</td>
<td>600 – 700</td>
<td>2</td>
</tr>
<tr>
<td>80000</td>
<td>Bachelor’s Degree</td>
<td>See PEQAB</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Apprenticeship</td>
<td>720 - 870</td>
<td></td>
</tr>
</tbody>
</table>

MTCU codes align with Provincial Program Standards and Program Descriptions; the CVS AA Tool has a database of existing Provincial Program Standards and Program Descriptions. The database was developed in early 2018 and therefore, programs developed prior to 2018 may not be included in the database. Descriptions that pre-date 2018 are from the last program that
was submitted to the Ministry for approval, not for all college programs offered in that MTCU code.

**Provincial Program Standards**

In 1993, the Government of Ontario initiated Program Standards development with the following objectives:

- more consistency of college programming offered across the province; broader focus of college programs to ensure graduates have the Essential Employability Skills (EES) and General Education (Gen Ed).
- to be flexible and to continue to learn and adapt; and,
- public accountability for the quality and relevance of college programs.

Provincial Program Standards are developed, reviewed and approved by a unit of the Postsecondary Education Quality Assessment Board (PEQAB) called the Program Standards Unit (PSU). The process they follow to develop a Standard is very comprehensive involving a range of stakeholders with a direct interest in the program area including employers, employees, regulatory bodies, professional associations and program graduates working in the field, in addition to students, faculty and administrators at the colleges themselves, and universities or secondary schools when required.

A Provincial Program Standard identifies the essential learnings that all program graduates should achieve. Program Standards are the starting point for program development and review across the Ontario college system. Program development using Provincial Program Standards requires full alignment with the binding elements articulated in the Standard: the program title, vocational learning outcomes, essential employability skills, and general education requirements. Individual colleges offering the program of instruction can determine the specific program structure, delivery methods, assessments, and other curriculum matters to be used in assisting students to achieve the outcomes articulated in the Standard.

**Program Descriptions**

The responsibility for the development and review of Program Descriptions stands with the colleges. Colleges are responsible for ensuring that Program Descriptions maintain their currency and relevance. The Minister’s Binding Policy Directive requires that all programs have Program Advisory Committees (PACs) to advise colleges on the essential learning that graduates of a program should achieve. Through the College Quality Assurance Audit Process (CQAAP), it is recognized that colleges have processes to review programs and collect input from PACs and
other stakeholders to update the program vocational learning outcomes to keep them current and relevant.

Currently, there is no process in place to ensure that when a college revises the vocational learning outcomes (VLOs) of a Program Description, the revisions are submitted to CVS to keep the database of Program Descriptions updated. Therefore, many times when a college needs to develop a new program, access to a current Program Description is not available. Program Descriptions are the starting point for program development and review across the Ontario college system and working with old versions can be complex at times. Therefore, all colleges are encouraged to share their revised Program Descriptions with CVS via email and CVS will update the tool accordingly.

In addition to the above information, the OQF includes critical information for those seeking to develop and receive new program validation as well as information that pertains to program modifications. All college personnel involved in this process should familiarize themselves with the OQF.
CVS Submission Overview

All submissions to CVS undergo a thorough review to ensure that programs meet or exceed the expectations and requirements set out in government policy through the Minister’s Binding Policy Directive, *Framework for Programs of Instruction* and *Admissions Criteria*.

The process of validation can involve iterations of a program submission. The validation process is collaborative whereby CVS staff and college personnel connect throughout to ensure a consistent flow of information and feedback between submission iterations prior to the submissions being validated.

Submission Validation

As previously mentioned, validation is required for:

1. **New Program Validation.** Required for new Ontario College Certificate (OCC), Ontario College Diploma (OCD), Ontario College Advanced Diploma (OCAD), or Ontario College Graduate Certificate (OCGC) programs, regardless of the program’s funding source.
2. **Program Modification.** Required for existing programs falling under the above credentials. Different types of program modifications require either CVS validation or MCU approval, or both (see Table 2 below). Colleges can contact CVS and/or MCU staff to clarify the type of program modification and to confirm the required validation/approval.

Note: For those seeking a program modification validation, Table 2 provides a summary of CVS and MCU approval requirements for modification changes. This table will help determine if CVS validation is required.

Each submission will be reviewed against the OQF, the Minister’s Binding Policy Directive *Framework for Programs of Instruction* and *Admissions Criteria*, and Outcomes-Based Education (OBE) principles.

For each submission type (i.e., new program or program modification), the college can request:

- Feedback (Informal Review)
- Validation (Formal Review)
Informal Reviews

The purpose of an informal review is to seek guidance and feedback on the content of the program submission. An informal review of a submission can be requested by a college at any time prior to the formal submission of the program for validation.

The feedback provided during an informal review is based only on the information provided at the time of submission. The recommendations or feedback provided by CVS may change depending on changes made to the formal submission.

Informal Review Submissions

There are two ways to apply for an informal review:

1. **CVS AA Tool**: select ‘Request Feedback’ on the ‘Submit’ tab of the tool.
2. **Email**: Using the [CVS Application Form for Program Proposal](#), complete the sections related to proposed changes and submit to cvs@ocqas.org.

If a request for an informal review is submitted via the CVS AA Tool, feedback will be provided in the ‘Feedback from OCQAS’ area in the applicable sections of the tool.

If a request for an informal review is submitted via email, the CVS requires, at minimum:

- documents are in Word to allow for track changes and comments;
- the MTCU code that is being mapped is stated the assigned program sequence (APS) number is stated for existing programs, if applicable; and,
• vocational learning outcomes (VLOs) are numbered for reference.

Note: New program validations that are mapped to two MTCU codes must be submitted via email first for informal review via CVS Application Form for Program Proposal (see Section F – PROGRAM MAPS [Appendix A]: Form 1 - Vocational Program Learning Outcomes) before it is submitted for formal review.

**Formal Review Submissions**

There are two ways to formally submit a new program proposal or program modification:

1. **CVS AA Tool:** Select ‘Submit’ on the ‘Submit’ tab of the tool for new program proposals. For program modifications, locate the existing program and select ‘Modify program’ on the ‘Navigation’ tab of the tool.
2. **Email:** Complete and attach the CVS Application Form for Program Proposal form found on the CVS website.

Note: Colleges that require a funded and non-funded validation for the same program should apply to one of the funding versions first. Once it’s validated, the college can use the program modification option on the tool to change the funding option and submit for the second validation.

**Submission Outcomes, Communication & Documentation**

Formal and informal program submissions are reviewed by at least two CVS staff members to increase consistency. While CVS guarantees a response within 15 working days, typically, a response is given within one week.

After the CVS staff reviews a formal or informal submission, they will respond to the college using the same mechanism used for the submission. If the submission was sent via the tool (formal or informal), response will be sent via the tool; if the submission is sent for review through email (informal), response will be sent via email. Depending on the nature (uniqueness) of the submission, there may be a number of iterations of a program proposal within a formal or informal review. On average there are three iterations before a submission is ready for validation.

**Informal Review Outcomes**

When an informal review occurs, and CVS concludes that the program is ready for validation, CVS will honor this decision for up to three months from the agreement. This is appropriate
given that CVS statistics show that 99% of programs are validated within this timeframe. If the validation is not submitted within this timeframe, typically, the program proposal/modification has changed from the original submission and therefore requires a full review.

Formal Review Outcomes

When a formal review occurs and the program is validated, a validation decision letter and program application document are emailed to the college and to the MCU. In cases where colleges plan to seek MCU funding approval, the college must submit directly the Validation Decision Letter and the Program Description and all other required MCU documents to complete the approval for funding request to the Colleges Unit using the Program Funding Approvals and Administration Module (PFAAM). MCU requires different, and additional, information than that required by the CVS: the Board Attestation form, signed by the college president, and the Program Delivery Information (PDI) form.
New Program Proposals

Proposal Components

For new program submissions (informal and formal), colleges are required to provide information related to the proposed program; the required components are listed below. This list is organized in the same order as they appear in the CVS AA Tool.

For each new program submission, completion of the following information is required:

1. Basic Information
   • MTCU Code Selection
   • Program Title Selection
   • Funding Request/Type
2. Program Description
   • Program Purpose
   • Admission Requirements
   • Occupational Areas
   • Laddering Opportunities
3. Program Vocational Learning Outcomes
4. Program Curriculum
5. VLO Mapping
6. EES Mapping (where applicable)
7. Certification
8. Contact Information

Appendix A and the CVS Program Application Rubric found on the OCQAS website are useful resources that provide guidance on the required information for each component of the proposal.

New Program Proposal

The following section details the steps required to complete a new program proposal. Please note that Appendix A provides detailed information and recommendations related to each submission component listed below. The CVS Program Application Rubric can be used as a checklist to ensure your application is complete.

The steps to complete a new program proposal are as follows:
1. Determine the MTCU code that best aligns with your proposed new program.
   • If the new program submission aligns with two codes, please contact cvs@ocqas.org to complete an informal mapping exercise prior to completion of any other activities. Appendix B provides a sample dual-code mapping exercise.
2. Determine the proposed title of the new program. Be sure to review the CVS Titling Protocols document to ensure compliance. For new program proposals including title modifiers, colleges are encouraged to reach out to CVS directly for feedback on optional titles to be selected.
3. Determine if the new program proposal will seek funding.
   • Colleges that want to validate the same program as both funded and non-funded, are required to submit one of the versions first.
4. Determine and craft the proposed program purpose.
5. Determine the proposed program admission standards.
   • Colleges are required to use the OQF to determine system-level admission standards associated with the credential. Subsequently, colleges can add program-specific and/or oversubscribed requirements
6. Determine and explain related occupational areas associated with the proposed program. You are required to include the associated/relevant NOC code(s), a connection to the field(s) of practice (i.e., where do people find jobs), and labour market data (i.e., expected job prospects, statistics).
7. Determine and explain laddering opportunities. Laddering opportunities should include both pathways in and out of the program and align with program-specific admission requirements, where they exist.
8. Complete a VLO mapping exercise. See Appendix C for an example. Note: VLOs for a Program Standard must be retained as is but additional VLOs may be added, and are necessary if there is a modifier included in the proposed title. VLOs for a Program Description may be modified or removed using the following process:
   • Review the VLOs associated with the MTCU code. Determine whether the proposed program will use the base VLO, use a new, proposed VLO, or will not include the original VLO.
     • A new, proposed VLO must include a rationale as to how the proposed VLO differs and aligns with the base VLO.
     • A rationale is required as to why a base VLO is not included.
     • See Appendix C for adding VLOs to proposed programs with title modifiers.
9. Determine the proposed program’s curriculum. Each course must be listed and include the following information: semester number, course code, number of hours, course title, and course description.
   - Use the OQF or Table 1 (page 8) to determine an appropriate number of hours and semesters for the chosen credential.
   - Note: Semester hours should be balanced. Total program hours must be within +/-10% of the listed hour range on the OQF.

10. Complete a VLO program map.
    - Each course must be mapped to a VLO unless it’s a general education course. Each VLO must be mapped to a minimum of two courses to ensure students have a reasonable opportunity to demonstrate achievement of each VLO.

11. Complete an EES map.
    - Each EES must be mapped to a minimum of two courses to ensure students have a reasonable opportunity to demonstrate achievement of each EES.

12. Determine if certification/accreditation is required. If certification/accreditation is required, the proposal must indicate one of the following:
    - There is a legislative requirement that program graduates must be certified or licensed by a regulatory authority to practice or work in the occupation and this certification is being sought; or,
    - There is a voluntary (i.e., not required by legislation) licensing or certification for entry to practice in the profession or trade and that voluntary recognition of a regulatory authority is being/not being sought.

13. Determine the college contact for the application. CVS recommends it is the individual responsible for drafting the program proposal submission and who will be maintaining the application on the CVS AA Tool.
Program Modifications Submissions

Program modification requests can differ in two ways pending their validation date.

**Modifying programs originally validated after May 2018.** If the original program was validated after May 2018, program title and program modifications are submitted using the [CVS AA Tool](#):

- Select “Titling Modification” function or “Program Modification” function and complete the appropriate section accordingly.
- Clearly outline the rationale for the proposed modification in the “Comments” section.

**Modifying programs validated prior to May 2018.** If the original program was validated prior to May 2018, program title and program modifications are submitted via email.

- For title modifications, complete and submit the modification request via email using either the [CVS Request for Program Title Modification](#) (title modifications only).
- For VLO modifications, email CVS and include the old VLOs alongside the newly updated VLOs.
- Any other modifications have to be done through the CVS form for program proposals and filled out completely before May 2018.

**Program Title Modifications**

Colleges can request to modify the title of a program aligned with a Program Description or to add a modifier to a program aligned with a Program Standard. Reasons to modify/add a modifier to a program title include alignment with current nomenclature, emerging areas of specialization and/or proposed changes to program content. CVS validation is required for all program title modifications, including the addition/removal of a title modifier.

1. Review the original MCU funding letter for the program, specifically Appendix A, Standard Terms and Conditions of College Program Funding Approval Review, to confirm MCU requirements for program title modifications.
2. Review the [CVS Titling Protocols](#) document to ensure compliance with protocols.
3. Review the vocational learning outcomes to ensure alignment with proposed title modification; revise/update outcomes as necessary. (See [Program Content Modifications](#) below to determine if revision to outcomes requires CVS validation).

Note: Some program title modifications require modification to outcomes. For example, adding a modifier to a Program Standard requires the addition of at least two vocational learning outcomes.
4. Secure the endorsement for the proposed title modification from the Program Advisory Committee.

5. Submit the program title modification request as per the directions in the CVS Submission Overview section above, based on the program’s original validation date.
   - Programs validated after May 2018 submit via the CVS AA Tool.
   - Programs validated prior to May 2018 are submitted via email review.

6. After the CVS validation letter is received, submit the validated title to MCU for approval via the PFAAM system.

Note: When an update to a Program Standard includes a program title change, colleges do not need to submit a program title modification request to CVS unless instructed to do so in the MCU release memorandum. Instructions for appealing the application of a Program Standard, including the application of a new title, are included in the release memorandum.

Program Content Modifications

Colleges can request a modification to program content to ensure currency with the field of practice and to reflect changes in level of specialization. These changes are typically expressed through changes to program vocational learning outcomes.

1. Review the MCU funding letter for the program, specifically Appendix A, Standard Terms and Conditions of College Program Funding Approval Review, to confirm MCU requirements for program modifications.

2. Confirm the scope of proposed modifications to vocational learning outcomes meets the minimum 25% threshold set by MCU for a formal program modification submission.

3. Determine if the proposed modifications to vocational learning outcomes require a program title modification. Note: If the proposed modifications to vocational learning outcomes require a program title modification, refer also to the Program Title Modification process above, in addition to the Program Content process. Adding or removing VLOs to or from an existing program does not always require a title modification. The end goal is to ensure that there is alignment between the VLOs and the title.

4. If the proposed modifications to program vocational learning outcomes do not require a title change, submit the modification request as per the direction in the CVS Submission Overview section above, based on the program’s original validation date.

5. After the CVS validation letter is received, submit the validated modification to MCU for approval via the PFAAM system.
Funding Status

Adding a Funded Version of an Existing Non-funded Program

Colleges can request a modification to the funding status of an existing program to add a funded version. Adding a funded version of an existing non-funded program is common practice for Colleges that initially launch a non-funded program for an international-only cohort.

1. Submit the modification request as per the directions in the CVS Submission Overview section above, based on the program’s original validation date.
2. After the CVS validation letter is received, submit the validated modification to MCU for approval via the PFAAM system.

Adding a Non-funded Version of an Existing Funded Program

Colleges can request a modification to the funding status of an existing program to add a non-funded version. For example, colleges seeking to attract international students might add a two-year non-funded version of an existing one-year funded graduate certificate. (See Special Considerations for OCGC sub-section for more information on Ontario College Graduate Certificates.)

1. Submit the modification request as per the direction in the CVS Submission Overview section above, based on the program’s original validation date.
Submission Withdrawals

Program development is a dynamic process and factors may cause a college to withdraw a submission. Colleges can withdraw a CVS submission at any time before CVS validation is received. There are two ways to withdraw a submission:

1. **Email CVS.** Notify CVS via email to confirm withdrawal of submission.
2. **Delete application in CVS AA Tool.** Login to CVS AA tool and delete submission prior to validation.

Resources and Support

The OCQAS Management Board requires that individuals responsible for preparing program submissions for validation complete the basic CVS training before submitting a program proposal. Individuals must:

- Complete the asynchronous workshop titled the **CVS Audio Guided PowerPoint Workshop**, which can be accessed on the [OCQAS website](https://ocqas.org).
- Complete the asynchronous workshop titled the **Writing Vocational Learning Outcomes Tutorial**, which can be accessed on the [OCQAS website](https://ocqas.org).

This training is also available and open to all individuals, new and experienced, who are seeking to update their skills. To set up a personalized training session please submit a completed [Reservation Form](mailto:cvs@ocqas.org) to cvs@ocqas.org.

Additionally, the CVS provides on-going training, orientation, and workshops with college personnel to ensure full comprehension of the validation application process and the requirements thereof. Workshops provide participants with the opportunity to:

- Review the process and requirements for submitting a program application.
- Discuss system-wide challenges/needs regarding select components of program submission (e.g., titling, existing program standards and descriptions).
- Identify and discuss key components of a program submission (program mapping, vocational learning outcomes, admission requirements, program curriculum, regulatory status).
- Identify best practices for submitting program submissions.
- Analyze various examples of program submissions.
- Complete a program submission using select tools and information (e.g., existing program descriptions and standards, Credential Framework, titling protocols).
Appendix A – New Program Proposal Details

Considerations for Aligning/Mapping to MTCU Codes

Selection of the MTCU code for a new program is the first and most important step of the process because it creates the framework around all aspects of the program. When selecting an MTCU code for a new program, it is important to consider the unique aspects of each MTCU code, such as:

- the nature of the programs that already exist under that code (i.e., title, instructional settings, program duration, tuition limits, program weight and funding unit, etc.); and,
- alignment with the goals of the program the college is developing.

An example of mapping to one MTCU code can be found in [Appendix B](#).

Retired MTCU codes are annotated with an ‘*’ in the ‘Browse MTCU Codes’ section of the [CVS AA tool](#). If an MTCU code has an ‘*’, it is a retired code and should not be used to develop new programs.

Aligning/Mapping to More than One MTCU Code

New programs submitted to the Ministry aligning to two MTCU codes might require longer processing times because the Ministry must do a complete assessment of the new MTCU Vocational Learning Outcomes (VLOs). This consists of reviewing the VLOs to assign an MTCU code and then decide on the program weight and funding unit.

It has been determined, through collaboration with the Ministry, that colleges developing new and innovative programs that require a new MTCU code, need to demonstrate the nature of the program by aligning/mapping to two codes. When considering two MTCU codes to map against, it is important to determine the rationale for selecting each code. Mapping to more than one MTCU code should be done to demonstrate the uniqueness it takes from each MTCU code rather than the similarities. Mapping to two MTCU codes is required if you are developing a program for a new field of practice.

These instances require an informal review via email prior to submitting the program application in the [CVS AA tool](#). This enables the CVS to clearly see the alignment to each proposed code. Submission instructions can be found in the [Informal Reviews](#) section of this Handbook.
When aligning to two MTCU codes, it is important to follow these requirements (see example in Appendix B)

1. Align each proposed VLO to the equivalent VLO in the existing Program Description(s) and/or Standard(s). Ensure that the theme/dimension of the existing VLO is considered and captured in the proposed VLO, where relevant.

2. If an existing VLO is not being brought forward into the proposed VLOs, leave the space blank and provide a rationale to justify its exclusion.

3. Ensure the proposed VLOs are appropriately numbered.

After the informal review is complete, the CVS reviews the final alignment and annotates the percentage of VLOs aligned to each of the two MTCU codes in the validation rationale. The CVS then informs the Ministry of the appropriate program area to which the proposed program belongs, so the Ministry can aggregate the program weight and funding unit accordingly. For example, a validation rationale might be: “Well-developed program; mapped to two MTCU Codes at the right credential and field of practice. 43% of Proposed Program VLOs align to MTCU Code 71010 and the other 57% to 72020.”

Aligning/Mapping to the Same Occupational Field but Different Credential

If a Provincial Program Standard or Program Description for a credential type in a particular MTCU code family does not exist, use one in the same family in a different credential. When mapping to an MTCU code of a different credential, it is important to demonstrate the proper level of performance for the proposed program VLOs. For example, if the proposed program is an OCGC but the MTCU code is for an OCD, then the modified VLOs should reflect the dimension level of an OCGC as outlined in the Framework for Programs of Instruction.

Aligning/Mapping to Outdated Program Descriptions and Standards

The process of creating new, or revising old, Program Descriptions, while complex, has evolved and improved. The CVS has hundreds of Program Descriptions on file that were initially created and prepared as guidelines for new program development, and in most cases include a program purpose, vocational learning outcomes, and in some cases, an indication of admission requirements. Many of these Program Descriptions were created years ago with little oversight, but they are still the starting point when creating a new or similar program in a related field of practice/credential. Colleges have a great deal of flexibility in terms of revising Program Descriptions to suit their current needs.
Aligning to outdated Program Descriptions can be achieved by considering the following points:

- Relevance of the program title.
- The credential being offered.
- Program purpose to ensure it is current and relevant to industry needs and graduate expectations.
- Skills and knowledge graduates will have upon completion of the program.
- The program goals as a starting point for developing clear and concise VLOs.
- Types of employment opportunities for graduates and labour market demand.

There are also a number of Program Standards that were created years ago. In many cases, the VLOs are old and do not represent the current field of practice. Please bring these to CVS’ attention so that CVS can notify the Program Standards Unit (PSU) group that there is an interest in updating specific Standards.

**Program Titles**

Program titles must follow [CVS Titling Protocols](#) regardless of whether the program is mapped to a Provincial Program Standard or Program Description.

**Title Criteria**

The following criteria should be considered when selecting a program title:

1. The title suggested for a new program should align with the titles that already exist in the same MTCU code family. The MTCU’s APS Table is a good source to check for existing program titles.
   - If an MTCU code has a Provincial Program Standard, the program title must be the same as that of the Standard and cannot be changed.
   - If an MTCU code has Program Description, the program title can be changed, but the title selection should be reflective of the program focus. A suggestion would be to have at least one of the words in the MTCU code family embedded in the new title.
2. Titles should describe a field of study and not a job title. For example: Mechanical Engineering Technology *not* Mechanical Engineering Technologist.
3. Titles should not include delivery mode or model (i.e., Fast Track, online)
4. Titles should not include language of delivery (i.e., FR, ENG)
5. Titles should reflect the program purpose and VLOs, to bare truth in advertising.
Title Modifiers

A modifier can be added to a title as long as it is consistent with accepted college system nomenclature, agreements (e.g., Heads of: provincial groups), and CVS Titling Protocols.

If a modifier is added to a title, whether it is a Program Standard or Program Description, it must be supported by a minimum of two VLOs specific to the modifier. Under the Framework for Programs of Instruction, the Provincial Program Standard represents the minimum provincial requirement for credentials to be awarded. Individual colleges can determine whether additional learning outcomes will be required to reflect a specialty in the field of study, industry and/or community need and can request the use of a modifier to identify this. See the example in Appendix C.

Funding Requests

OCQAS’ mandate is to ensure that programs of instruction, regardless of funding source, conform to the Minister’s Binding Policy Directive, Framework for Programs of Instruction.

When a submission is reviewed by the Ministry, the funding for a program is calculated to reflect the proposed number of hours and instructional settings. Unless a program’s hours and/or instructional settings vary significantly from other programs in the same MTCU code, the submission is approved. As the funding review does not include the same elements as the validation undertaken by CVS, a program may be assigned to a different MTCU code during the Ministry’s program approval process.

Program Description/Program Purpose

If a program title is quoted in the Program Description/Purpose section, it must be the same as the proposed program title. The information in this section must be representative of and align with the other areas of the application. The purpose of the program should clearly reflect the skills, knowledge and attitudes expected upon graduation, and current industry needs.

Admission Requirements

Admission criteria for programs of instruction offered at Ontario public colleges falls under the ‘CAAT Act’ (2002). The guiding document that describes these expectations is the Minister’s Binding Policy Directive Admissions Criteria. Admission requirements for new programs of instruction are established, as part of the program development stage.

Under the Admission Criteria Minister’s Binding Policy Directive, there are three levels of Admission Requirements:
System Level Admission Requirements

Programs submitted for CVS validation must include the relevant system level admission requirements based on the credential type by using the language from the Minister’s Binding Policy Directive verbatim. The CVS has added the system level requirements to all MTCU codes on the CVS AA tool to simplify this step in the development process. This language is mandatory and cannot be deleted or modified unless the professional body certifying the credential or graduate requires something different.

System Level requirements are:

- **OCC, OCD and OCAD**: Ontario Secondary School Diploma (OSSD) or equivalent, mature student status.
- **OCGC**: Ontario College Diploma, Advanced Diploma, Degree or equivalent.

Program Level Admission Requirements

In addition to the mandatory system level admission requirements outlined in the Minister’s Binding Policy Directive, colleges can add program-specific admission requirements by listing courses, language, and/or achievement percentages required for admission. When determining program level admission requirements, it is recommended to take into consideration the following:

- The level of educational background the applicant will need to enter the program.
- That students are able to reliably achieve the finalized VLOs based on the admission requirements.
- The assessment structure that will make it possible to identify the presence of the required skills and knowledge.
- That requirements are capable of objective demonstration or measurement, and are relevant to the program, and do not include secondary school university preparation courses or Ontario Academic Courses, with two exceptions (see Binding Directive for more details):
  - Collaborative college-university programs
  - College applied degrees

Program level admission criteria are to be added to the existing system level requirements, not replace them.
Oversubscribed Program Admission Requirements

When a program of instruction continues to be oversubscribed after the system level and program level admission requirements have been followed, colleges can introduce program-specific selection criteria. The process and selection criteria for oversubscribed programs has to be fair (time and cost), objective, and measurable (see Minister's Binding Policy Directive Admissions Criteria for more details).

Changes to Admission Requirements

After a program has been validated, changes to admission requirements are submitted to the MCU for approval via PFAAM.

If program level admission requirements are changed by adding more stringent requirements, an 18-month lead time is recommended for implementation (minimum 12 months). This change is required to be submitted to MCU for approval via PFAAM.

Occupational Areas

Occupational Areas clearly define the field of practice and identify the labor market demand for a program.

As part of a funding application, the Ministry requires specific information regarding what potential jobs graduates could get as a result of successfully completing a proposed program, as well as the number of jobs that may be available. It is beneficial to include context and statistics for the labor market of the profession, including specific NOC Code(s). Currently PFAAM submissions will accept up to three NOC Codes for a program application.

The CVS will ensure colleges submit detailed information under the Occupational Areas section of program submissions so that the MCU can be assured this information is complete and they do not need to request further information regarding this. However, if the Ministry requests additional information regarding labor market data, number of hours, instructional settings, etc., it is helpful to share this information with CVS so that other colleges can be guided appropriately.

Laddering Opportunities

When filling out this section, keep in mind these two values of the college system: Access and Pathways. This section should always consider both the ‘To’ and ‘From’ opportunities that a new program provides students. An example is provided in Table 3. Laddering Example.
Table 3. Laddering Example

<table>
<thead>
<tr>
<th>Laddering into Electromechanical Engineering Technology – Power and Control Program (OCAD)</th>
<th>Laddering from the Electromechanical Engineering Technology – Power and Control Program (OCAD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completed Credential</td>
<td>Type of Pathway</td>
</tr>
<tr>
<td>Electrical Apprenticeship</td>
<td>Apprenticeship → OCAD</td>
</tr>
<tr>
<td>Electrical Techniques (OCC)</td>
<td>OCC → OCAD</td>
</tr>
<tr>
<td>Electromechanical Engineering Technician (OCD)</td>
<td>OCD → OCAD</td>
</tr>
<tr>
<td>Electromechanical Engineering Technology (OCAD)</td>
<td>OCAD → OCAD</td>
</tr>
<tr>
<td>College to College</td>
<td>College to College</td>
</tr>
</tbody>
</table>

Vocational Learning Outcomes (VLOs)

Ontario’s colleges are responsible for ensuring that their program VLOs are purposeful and consistent with the Framework for Programs of Instruction and OQF. To help colleges fulfill this responsibility, the CVS follows an outcomes-based credentialing model to review all VLOs. VLOs influence curriculum development and program review since they need to be congruent with the existing Provincial Program Standards and/or Descriptions and the current needs of the workplace.

VLOs annotated with an ‘*’ are institutional learning outcomes and are not base VLOs in a Program Description. If an application is submitted with an institutional outcome, please annotate it with an ‘*’, at the beginning of the sentence. If a program is mapped to an MTCU code that includes an institutional outcome that is not from the institution submitting the proposal, that VLO should not be included.

Writing VLOs that Align to Program Descriptions

Using Program Descriptions as a starting point in new program development allows colleges the flexibility to modify the language of the VLOs. Program Description VLOs can be modified, but the college must ensure that they are mapping, at minimum, to the existing program’s elements/dimensions/themes. A rationale should be provided for any base VLOs that are not
included in the new program proposal. When developing and modifying VLOs, consider the following:

- The VLO should be written considering the stem: “The graduate has reliably demonstrated the ability to ...”
- VLOs are statements that describe what learners will know and be able to do when they graduate from a program.
- VLOs describe performances that integrate knowledge, skills, and attitudes that are necessary and significant for college graduates to be effective in their vocational and personal pursuits.
- VLOs are vocational. They describe what an employer would ask the graduate to do in the workplace.
- VLOs align with curriculum learning activities, resources and assessments.
- VLOs are not to be too specific to ensure that the references do not become obsolete.
- VLOs are written at the same or a higher level than the credential that is being sought.
- If there is a specific reason to have an EES outcome in the VLOs, then it must specify the vocational or situational application. For example, a “communication” outcome in the VLOs would need some reference to the use of language and/or terminology relevant to the field.
- When adding VLOs, ensure they cover a theme/dimension that is not currently covered by the existing VLOs.
- VLOs have three parts: verb, context, and criteria. These three parts should work together: there should be a connection between the activity (Verb), the context and the outcome (Criteria):
  - Verb: should be a performance that aligns with the credential level.
  - Context: describes the context under which the performance occurs.
  - Criteria: includes the criteria for evaluating the performance.
- VLOs are measurable, observable and action-oriented. They describe what the graduate will be able to do to demonstrate that they have achieved the outcome. Verbs to avoid:
  - Understand
  - Execute
  - Demonstrate
  - Ensure (difficult to ensure anything)

VLOs have their roots in the instructional analysis and the definition of entry level behaviors. They also form the basis for subsequent instructional design activities.
Writing VLOs that Align to Provincial Program Standards

If a selected MTCU code has a Program Standard, the VLOs must remain the same as what is in the published Program Standard. Additional VLOs may be added to support a title modifier. For more information regarding title modifiers, please review the CVS Titling Protocols. For a good example of title modifiers and supporting VLOs, see Appendix C.

Program Curriculum

Course Codes, Titles and Descriptions

Course codes and titles must be unique in a program submission, even if they are ‘TBA’ (i.e., TBA1 – Introduction to Computer Programming). A course title and description should align with each other, and with the program title, program description and VLOs. Course descriptions should be reflective of the VLOs that the course is mapped against.

Every Diploma and Advanced Diploma should contain a minimum of three general education courses. When adding general education and/or elective courses, the following should be considered:

- general education courses should align with the themes found in the Framework for Programs of Instruction;
- if a course satisfies the criteria to be considered general education, then the course must be indicated as such; and,
- if a course is both general education and elective, then both elements should be indicated for the identified course in the curriculum section of a submission.

Course Hours and Program Duration

Course hours and program duration should be similar to existing programs in the same MTCU code. Existing programs in an MTCU code set the precedent for all new programs in the same code as it relates to titles, program duration, instructional settings, program weight and funding unit. Co-op courses should be in their own semester, where they exist. To determine the number of semesters, and where available, the number of program hours that would be acceptable and validated in a proposed program, please refer to the MTCU’s APS Table.

It is recommended that overall program duration meet the minimum requirement of hours in the typical number of semesters for the credential as outlined in the OQF; however, a +/- of

1 Minimum/required hours for co-op are 30% of program hours. The CEWIL requirement is 420 hrs.
10% will be accepted for validation. The OQF uses an average of 300 hours per semester. It is important that colleges consider this 10% at the semester level as well as program level. Programs that are using the number of hours but extending the number of semesters may negatively impact the students’ eligibility for OSAP. For example, a certificate of 600 hours normally shouldn’t be offered over 3 terms.

Special Considerations for Ontario College Graduate Certificates (OCGC)

The expectation for the distribution of hours for an OCGC is that 600 to 700 hours be completed over two semesters (one academic year). If a new program is aligned with an MTCU code under which most programs are two semesters and they already include a work integrated learning component, it would be hard to justify requiring a third semester. If the existing programs are two semesters and don’t include a work integrated learning component, justifying a third semester would be possible.

The request for two-year OCGCs falls outside the OQF’s ‘typical duration’ for this credential, which is “two semesters or 600-700 equivalent instructional hours”.

If an OCGC requires funding but does not follow the ‘typical duration’ of the credential, the MCU requires special approval by the Minister, slowing the approval and funding process. Two-year OCGCs are acceptable only when:

- an MTCU code already includes two-year programs;
- the existing code does not have an existing work integrated learning experience, such as co-op, and there will be an additional semester in the program to cover this requirement;
- the existing code does not already provide students with the Canadian context necessary for their successful employment; and,
- the success of the student in a new field of practice requires two years of education at the OCGC level.

VLO Mapping

Program curriculum is mapped against VLOs to ensure proper alignment. When mapping to VLOs the following should be considered:

- all core courses must be mapped to at least one VLO;
- each VLO must be mapped against more than one course in order to ensure that the learner has multiple opportunities to demonstrate that they have met the outcome;
- there is consistency between the course descriptions and the VLOs they are mapped to;
• general education courses (elective) should not be mapped to VLOs;
• elective, non-general education, courses can be mapped to VLOs as long as there are other courses supporting the VLO(s); and,
• Co-op courses must map to at least one VLO.

Essential Employability Skills (EES) Mapping

Curriculum in Certificate, Diploma and Advanced Diploma programs must map to all 11 EES. This ensures reasonable assurance that the EES is taught and assessed more than once over the course of a program so that the graduate can reliably demonstrate achievement of the EES outcomes. This does not mean that all courses need to be mapped to an EES, but all EES must be covered by at least one course.

Accrediting Bodies and Other Program Regulatory Requirements

This section must be completed by either checking “None Exist” or by indicating the voluntary or mandatory accreditation requirements for the proposed program. If accreditation has been initiated, any relevant documentation should be submitted as an attachment.
# Appendix B – MTCU Code Mapping Exercises

## Example Mapping to 1 MTCU Code

<table>
<thead>
<tr>
<th>MTCU Code A - VLOs</th>
<th>Proposed VLOs</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Develop quality assurance and continuous improvement processes to monitor the operation of the supply chain (from purchasing to shipping)</td>
<td><strong>1.</strong> Develop quality assurance and continuous improvement processes to monitor the operation of the supply chain.</td>
<td>No need to explain the supply chain.</td>
</tr>
<tr>
<td><strong>2.</strong> Analyze law and regulations applicable to food processing and their effects on operational activities in a food manufacturing facility</td>
<td><strong>2.</strong> Analyze regulations applicable to food processing and their effects on operational activities in a food manufacturing facility to ensure that the highest standards for product quality are being met.</td>
<td>Revised to answers the question to what end.</td>
</tr>
<tr>
<td><strong>3.</strong> Select and use appropriate and effective principles and practices of team-building and leadership to implement and maintain new procedures and practices in all areas of the manufacturing operation (e.g. food safety, quality assurance, lean manufacturing, total preventative maintenance, continuous improvement)</td>
<td><strong>3.</strong> Select and use appropriate and effective principles and practices of team-building and leadership to implement and maintain new procedures and practices in all areas of the manufacturing operation.</td>
<td>Removed information in brackets.</td>
</tr>
<tr>
<td><strong>4.</strong> Prepare accurate and relevant production cost charts that include all cost factors (e.g. inputs, direct and indirect labour, maintenance, QA, warehousing) to support</td>
<td><strong>4.</strong> Prepare accurate and relevant production cost charts that include all cost factors (e.g. inputs, direct and indirect labour, maintenance, QA, warehousing) to support appropriate financial.</td>
<td></td>
</tr>
<tr>
<td>5. <strong>Apply recognized principles and industry standards to the systematic analysis of cost of production</strong></td>
<td>n/a</td>
<td>Covered in 4</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>6. <strong>Manage the scope, cost, timing, and quality of a project as defined by project stakeholders</strong></td>
<td>5. <strong>Manage the scope, cost, timing, and quality of a project as defined by project stakeholders to contribute to the brand reputation and financial success of the business.</strong></td>
<td>Revised to answers the question to what end</td>
</tr>
</tbody>
</table>
### Example Mapping to 2 MTCU Codes

<table>
<thead>
<tr>
<th>MTCU Code A - Program Description 1</th>
<th>MTCU Code B - Program Description 2</th>
<th>Proposed Program Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify, evaluate and manage relevant data sources to support data analytics and to meet organizational needs.</td>
<td></td>
<td>1. Identify, evaluate and manage relevant data sources to support data analytics and to meet organizational needs.</td>
</tr>
<tr>
<td>2. Recommend different systems, architectures and data storage technologies to support data driven solutions.</td>
<td></td>
<td>2. Recommend different systems, architectures and data storage technologies to support data driven solutions.</td>
</tr>
<tr>
<td>3. Develop and deploy complete Machine Learning/Deep Learning production systems for a variety of industry use cases that meet the needs of a specific operational/business process.</td>
<td></td>
<td>3. Develop and deploy machine learning production systems for a variety of industry use cases that meet the needs of a specific operational/business process.</td>
</tr>
<tr>
<td>4. Assess and apply appropriate mathematical models, algorithms, tools, and frameworks to develop AI-enabled, industry specific solutions</td>
<td></td>
<td>4. Assess and apply appropriate mathematical models, algorithms, tools, and frameworks to develop AI-enabled, industry specific solutions</td>
</tr>
<tr>
<td>5. Design and present A.I. solutions effectively to stakeholders through the use of data visualisations</td>
<td></td>
<td>5. Present information, analysis, reports, and recommendations in a variety of formats to meet the needs of both the audience and operational/project objectives.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>6. Apply <strong>legal, ethical, privacy, and security-related</strong> standards and considerations in data science projects in a manner that protects privacy and confidentiality, addresses data bias and transparency, and ensures data integrity.</td>
<td>1. Incorporate <strong>sustainable, economic, safe and ethical approaches</strong> in the design and implementation of projects.</td>
<td>6. Incorporate <strong>sustainable, economic, ethical, safe and secure approaches</strong> in the design and implementation of projects to ensure stakeholder physical safety and data privacy.</td>
</tr>
<tr>
<td>7. Implement artificial intelligence systems on time and budget using best practices and strategies in design thinking, <strong>project management and lifecycle management</strong>.</td>
<td>2. Solve automated manufacturing problems found in a typical industrial environment by applying engineering principles and decision-making strategies.</td>
<td>7. Solve automated manufacturing problems found in a typical industrial environment by applying engineering principles and decision-making strategies.</td>
</tr>
<tr>
<td></td>
<td>3. Analyze and synthesize technical data to develop graphics and related technical documents conforming to engineering standards.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Select and manage appropriate hardware and software for the creation of engineering designs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Identify and utilize manufacturing processes, rapid prototyping methods, and automation technologies to optimize product development.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Identify and utilize manufacturing processes, rapid prototyping methods, and automation technologies to optimize product development.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Configure, control, monitor, and evaluate automated manufacturing components and systems to improve automated manufacturing systems and maintain quality control measures in response to industry needs and requirements.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Configure, control, monitor, and evaluate automated manufacturing components and systems to meet industry needs and requirements.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Exercise professionalism, leadership, and effective communication in an industrial work setting to increase overall productivity and support a positive work environment.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Exercise professionalism, leadership, and effective communication in an industrial work setting to increase overall productivity and support a positive work environment.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Ensure automation equipment is in compliance with established operating procedures, and occupational health and safety regulations.</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Ensure automation equipment is in compliance with established operating procedures, and occupational health and safety regulations.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C – Adding VLOs to Support Title Modifier

**Provincial Program Standard Title:** Chemical Laboratory Technology, **MTCU Code:** 61302

**Proposed Title:** Chemical Laboratory Technology – Food Science

**VLO 1-10 are from Program Standards**
1. Research, determine and perform procedures related to the purification, analysis and synthesis of chemical compounds and samples.
2. Perform, coordinate and implement laboratory procedures to conduct quantitative and qualitative analyses and tests.
3. Select, test, calibrate, troubleshoot and evaluate chemical analysis instruments and equipment to assure accurate results.
4. Implement, coordinate and evaluate quality assurance and quality control procedures, including statistical analysis, in accordance with international and industry standards and government regulations.
5. Complete, monitor and manage chemical laboratory tasks and projects using computer and information technologies.
6. Participate in health and safety practices and initiatives in the chemical laboratory to ensure a safe environment for oneself and others.
7. Promote the efficient, sustainable and ethical use of chemical laboratory resources through the application and analysis of sustainability practices.
8. Communicate laboratory data, results, analysis and recommendations through the preparation, interpretation and presentation of technical reports.
9. Collaborate with others and work in chemical laboratory teams to complete laboratory tasks and projects.
10. Develop strategies for ongoing professional development to enhance competence as a chemical laboratory technologist.

**Additional VLOs to support the Title Modifier:**

11. Interpret results using microbiological techniques to ensure quality assurance and quality control in the food industry.
12. Develop food products using principles of food safety and food regulations for commercial use.
13. Support continuous improvement strategies using safe food principles including Good Manufacturing Practices (GMPs), Good Laboratory Practices (GLPs), Hazard Analysis and Critical Control Points (HACCP), Codex Alimentarius for inspecting food production processes.
Ontario College Quality Assurance Service (OCQAS)

Address: 130 Queens Quay East, Suite 606, Toronto, On, M5A 0P6

E-mail: cvs@ocqas.org

Phone: 647-258-7682

Web: https://www.ocqas.org/