Roofer

Transition Plan V.1.0

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Abbreviations

CCDA	Canadian Council of Directors of Apprenticeship
CL	Current Level
DA	Direct Access (ITA's registration system)
ER	Employer sponsor
HL	Harmonized Level
IPSE	Interprovincial Red Seal Exam
NOA	Red Seal National Occupational Analysis
RSOS	Red Seal Occupational Standard; replaces NOA
SLE	Standardized Level Exam
TP	Training provider
TT	Technical training
TW	Trade worker
WBT	Work-based training

Harmonization Overview

The Canadian Council of Directors of Apprenticeship (CCDA) is responsible for the Red Seal Program, which develops common interprovincial standards and examinations. The CCDA is undertaking the Harmonization Initiative in 30 Red Seal trades by 2020. British Columbia is an active participant in this initiative.

The goal is to substantively align apprenticeship systems across Canada by making apprenticeship training requirements more consistent in the Red Seal trades.

Harmonization Priorities

1. Use of Red Seal **trade name**
2. Consistent **total training hours** (in-school and on-the-job)
3. Same number of **training levels**
4. Consistent **sequencing** of training content, including use of most recent Red Seal Occupational Standard (RSOS).

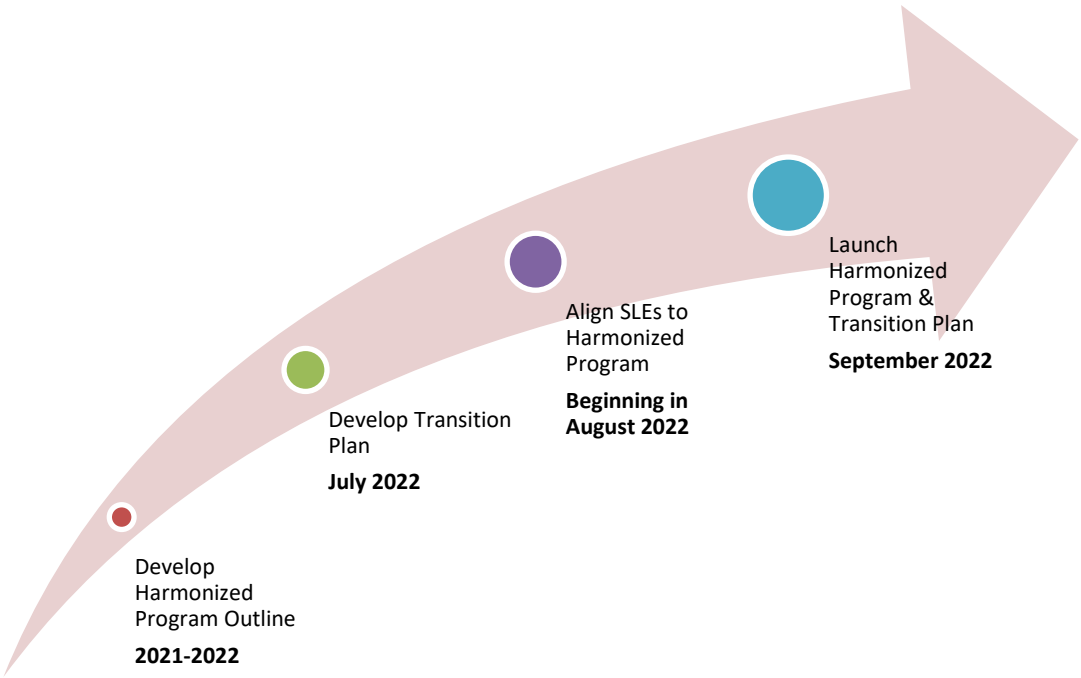
What's changing for **ROOFER**	Changing in BC?	What will it be?
TRADE NAME	**YES**	**Roofer**
NUMBER OF TRAINING LEVELS	**NO**	**3**
TOTAL HOURS technical + work-based training	**YES**	**5,400 hours** +450 TT hours +1350 WBT hours
TRAINING SEQUENCE order of subjects taught	**YES**	**Sequencing changes**

Transition Planning Process

The re-sequencing of the Roofer program through the Harmonization Initiative has resulted in significant changes to the sequencing of technical training.

The ITA Program Standards Team consulted with the post-secondary training provider that delivers the Roofer program and considered the input of our internal and external partners. ITA and its partners evaluated several transition options and the transition plan outlined in this document was identified as the best option. We have also ensured that there are pathways for all current apprentices to complete their apprenticeship.

Program Development and Transition Planning 2022-2023



Training Provider (1)

- Roofing Contractors Association of British Columbia (RCABC)

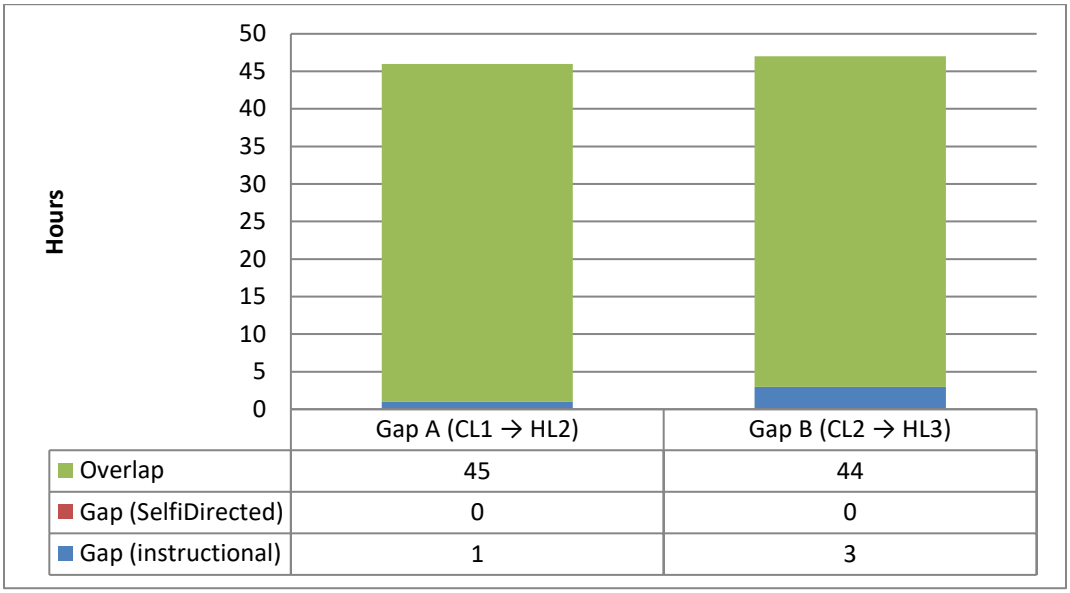
Apprentice Numbers in Current Program

Program	Status	0TT	CL1	CL2	CL3	Total
Roofer	Active	181	137	73	34	**425**
	Inactive	311	189	42	49	**591**
	Total	**492**	**326**	**115**	**83**	**1016**

Notes apprentice numbers:

1. Numbers are as of August 1, 2022.
2. **0TT:** Apprentices who are registered in Direct Access (DA) but haven't completed any technical training.
3. **CL3s:** TWs who have completed CL3 are not considered in transition planning as they will not be impacted by the implementation of harmonized training.
4. **Active:** Apprentices for whom activity has been logged in DA within the last 18 months.
5. **Inactive:** Apprentices for whom **no** activity has been logged in DA within the last 18 months.

The Gaps



	Gap A (CL1 → HL2)	Gap B (CL2 → HL3)
Overlap	45	44
Gap (SelfiDirected)	0	0
Gap (instructional)	1	3

What are gaps and overlaps?

A Gap is an estimate of the hours of technical training content **that an apprentice will be missing if they transition** from the current program to the Harmonized program **(CL→HL)** at a specific level. A current apprentice who is unable to finish their training in the current program will be transitioned to the Harmonized program at designated levels, i.e., **not** at levels that are dual streamed. A current apprentice will only transition to the Harmonized program once and so will only face a gap in their training at that one point.

> **Gap A (CL1→HL2)** is the technical training content that an apprentice who has completed Current Level 1 will be missing if they transition into Harmonized Level 2.
>
> **Gap B (CL2→HL3)** is the technical training content that an apprentice who has completed Current Levels 1 and 2 will be missing if they transition into Harmonized Level 2.

An Overlap is an estimate of the hours of technical training content that an apprentice will be repeating if they transition from the current program to the Harmonized program (CL→HL) at a specific level.

What are Instructional Hours and Self-Directed Learning Hours?

Instructional Hours is the missing content that requires instructional time to address. It is critical to the apprentice's success and is unlikely to be learnt without intervention.

Self-Directed Learning Hours is missing content that an apprentice will likely learn in the context of other tasks or levels in technical training, on the job, or through self-study. It isn't considered critical to the apprentice's success.

Will gap training be provided for each of the gaps?

Not in the case of the Roofer Transition Plan because the gaps are very small.

Can apprentices who are in the harmonized program transition into the current program?

No. **Gaps for reverse transition**, i.e., when an apprentice transitions from the Harmonized program to the current program **(HL→CL)** will contain different technical training content than normal transition. Reverse transition often results in gaps that are larger than normal transition. **It is never recommended to allow an apprentice to reverse transition**.

Where can I see what content an apprentice will be missing if they transition at a particular level?

See *Appendix A: Details of Gaps* for a list of the competencies, content and achievement criteria that current apprentices will be missing if they transition to the harmonized program.

Transition Plan Summary

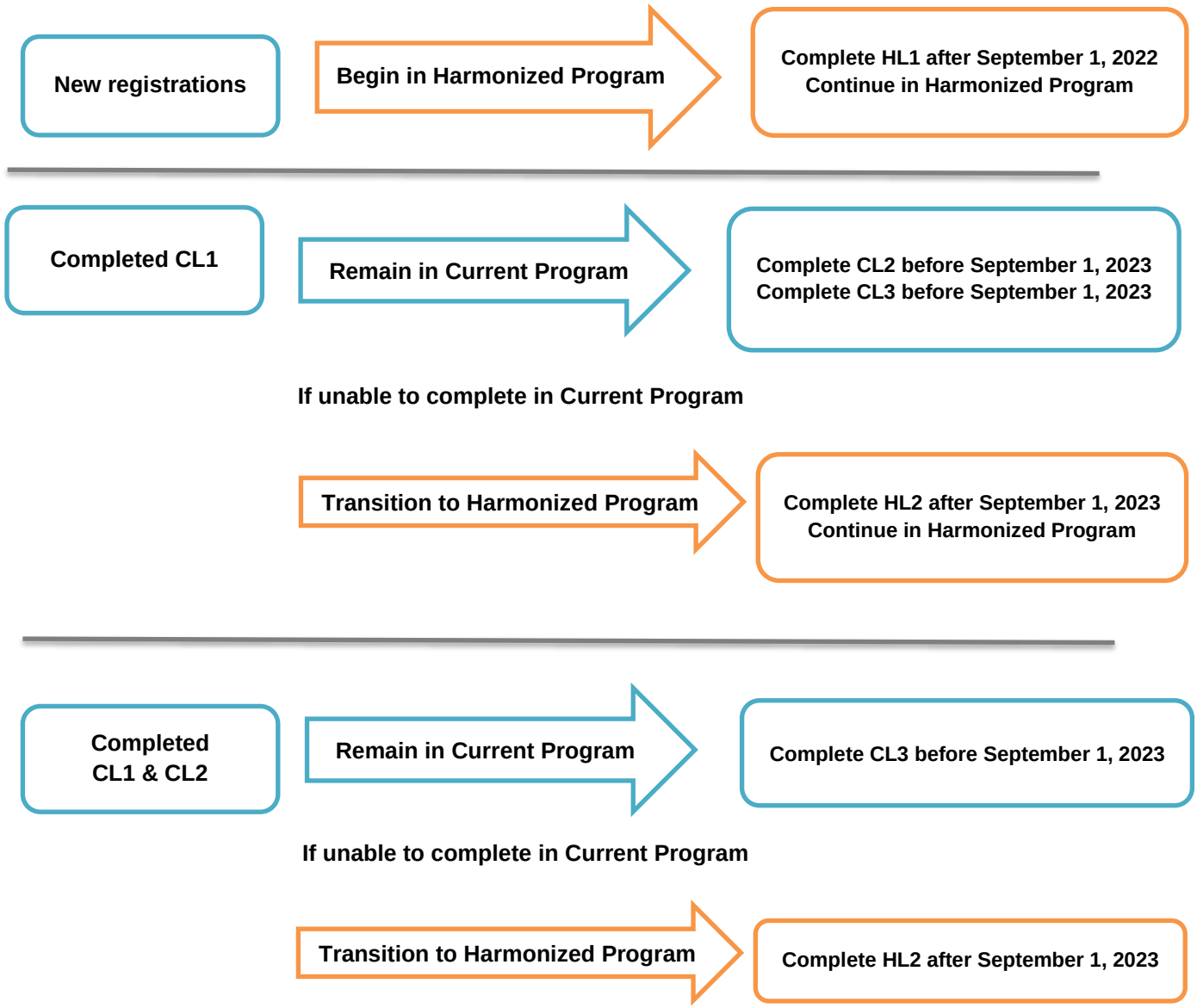
Implementation Timelines	
Harmonized Level 1 (HL1)	September 1, 2022
Harmonized Level 2 (HL2)	September 1, 2023
Harmonized Level 3 (HL3)	September 1, 2023

Year 0 September 2021	CL1	CL2	CL3
Year 1 September 2022	HL1	CL2	CL3
Year 2 September 2023	HL1	HL2	HL3

Notes:

- **Gap training and Training Provider Support** are **not** required in the Roofer transition plan.

Pathways for Current Apprentices (Summary)



Changes to Training Hours

The following changes to training time for Roofer will come into effect **September 1, 2022**:

- Increased technical training hours to accommodate content added to the Red Seal Occupational Standard (RSOS) **(increase of 30 hours at Level 1, 30 hours at Level 2, and 30 hours at Level 3)**
- Increased work-based training (WBT) hours to align with the harmonized standard of **5,400** hours of total training (**increase of 1350 hours**)

Apprenticeship Pathway

Current Program	Hours
Technical Training Level 1 = 120 hours Level 2 = 120 hours Level 3 = 120 hours	360
Work-based Training Hours	3600
Current Total Training Hours	**3960**

Harmonized Program	
Technical Training Level 1 = 150 hours Level 2 = 150 hours Level 3 = 150 hours	450
Work-based Training Hours	4,950
Harmonized Total Training Hours	**5,400**

Challenge Pathway and Sign-off Authority

Current Program	Hours
Work-based Training Hours	3,960
ITA Formula for Calculating Challenge WBT	X 1.5
Current Challenge WBT Hours	**5,400**

Harmonized Program	Hours
Harmonized Work-based Training Hours	4,950
ITA Formula for Calculating Challenge WBT	X 1.5
Harmonized Challenge WBT Hours	**7,425**

Exams for the Harmonized Program

CL Exams - As current levels of technical training are phased out, the current standardized level exams (SLEs) **will be inactivated**.

HL Exams - As harmonized levels of technical training are implemented, there will be a delay before the harmonized SLEs can be launched.

Exam	Exam Development	Tentative Exam Launch
HL1	Summer 2022	Winter 2022
HL2	Spring 2023	Fall 2023

Why are the harmonized exams implemented after the harmonized level?

The exams need to be piloted with the first cohort of apprentices that complete the harmonized level. The pilot results are then analyzed, and depending on the result, further revisions or validation may be needed before the exam is launched.

What is the final mark for the apprentices based on if there is no SLE?

For classes that end before the launch of the HL SLE, the final mark for the level will be based solely on in-school assessments.

How will training providers be informed of the launch of an HL exam?

An OPSN will be sent to announce the launch of the HL exams.

Appendix A: Details of Gaps

Roofer Gap Analysis

GAP A: CL1→HL2

This table lists the content that an apprentice will be **missing** if they have completed CL1 and then take HL2.

Harmonized Level Competency	Missing Content	Achievement Criteria	Content Migration	Instructional Hours*	Self-directed Hours**
C2 Interpret blueprints and drawings	Convert measurements from scale	Yes – Calculate areas and perimeters	HL1/HL2/HL3 ←CL2/CL3	1	
			TOTAL	**1**	**0**

*__Instructional Hours__ are hours of dedicated instruction that an apprentice would need to cover the missing content

**__Self-Directed Hours__ are hours of content that an apprentice would be able to cover through self-study, on the job or in the context of other tasks/levels.

GAP B: CL2→HL3

This table lists the content that an apprentice will be **missing** if they have completed CL1 and CL2 and then take HL3.

Harmonized Level Competency	Missing Content	Achievement Criteria	Content Migration	Instructional Hours*	Self-directed Hours**
P1 Maintain low slope roofing	Use tools and equipment for general maintenance of low slope roofing Describe overview of maintenance for low slope roofs Describe maintenance of modified bituminous membrane systems	No	HL2/HL3←CL3	1.5	
P2 Repair low slop roofing	Describe use of tools and equipment to repair low slope roofing Describe an overview of the repair of low slope roofs	No	HL2/HL3←CL3	0.5	
Q1 Maintain steep slope roofing	Describe selection of tools and equipment for	No	HL2/HL3←CL3	0.5	

	general maintenance of steep slope roofing Describe overview of maintenance for steep slope roofs				
Q2 Repair steep slop roofing	Describe use of tools and equipment used in steep slope roofing repair Describe overview of steep slope roofing repair	No	HL2/HL3←CL3	0.5	
			TOTAL	**3**	**0**

OVERLAP A: CL1→HL2

This table lists the content that an apprentice will be **repeating** if they have completed CL1 and then take HL2. Overlaps are identified so that instructors and apprentices are aware of the repeated content. There may be opportunities for transitioned CL1 apprentices to use some of their overlap time to study their gap content.

Competency	Repeated Content	Content Migration	Hours
B1 Use hand tools	Wood and composite shingles, and modified bitumen roof system specific tools	CL1→HL1/HL2/HL3	0.25
B2 Use power tools, pneumatic tools, and hot-air welding, induction, and fuelled equipment	Wood and composite shingles, and modified bitumen roof system specific tools	CL1→HL1/HL2/HL3	0.25
B3 Use hoisting, lifting, and rigging equipment	Use hoisting, lifting, and rigging equipment	CL1→HL1/HL2/HL3	1
B4 Use access equipment	• Assemble scaffolding • Disassemble scaffolding	CL1→HL1/HL2/HL3	1
B5 Use hot process equipment	Use hot process equipment required for a modified bitumen and hot rubberized asphalt roof	CL1→HL1/HL2/HL3	0.25
B6 Use motorized equipment	Wood and composite shingles, and modified bitumen roof system specific equipment	CL1→HL1/HL2/HL3	0.25
C5 Position equipment and material on the ground and on the roof	Place equipment and material on ground and roof	CL1 → HL1/HL2	1
C6 Prepare material disposal site	Assemble and disassemble material disposal systems	CL1 → HL1/HL2	1
E4 Prepare roof substrate	• Describe principles of roof substrate preparation • Describe preparation of roof substrate	CL1→ HL2	0.25
E5 Perform minor adjustments to	• Use tools and equipment to perform minor adjustments to	CL1→ HL2	0.25

penetrations, curbs, and parapets	penetrations, curbs, and parapets • Perform adjustments to heights of penetrations and parapets		
F1 Inspect deck	Describe how to inspect the deck	CL1 → HL2/HL3	0.25
F3 Verify placement of roof penetrations, curbs, and parapets	• Install drains, vents, curbs, and penetrations on a modified bituminous membrane system	CL1 → HL2/HL3	0.25
G3 Apply vapour retarder, vapour barrier, and air barrier	• Describe vapour retarders and their purpose • Install vapour retarders	CL1/CL3 → HL1/HL2/HL3	1
G7 Apply ballast, walkways, and protective surfaces	• Use tools and equipment required for the application of ballast, walkways, and protective surfaces • Apply ballast, walkways, and protective surfaces for a modified bituminous membrane system	CL1/CL3 → HL1/HL2/HL3	1
H1 Relax membranes	• Use tools and equipment for modified bituminous membranes • Prepare modified bituminous membranes • Relax modified bituminous membranes	CL1→HL1/HL2/HL3	1
H2 Set membranes	Set a modified bituminous membrane	CL1→HL1/HL2/HL3	0.25
H3 Apply membranes using hot-liquid process	• Use tools and equipment to apply membranes using a hot-liquid process • Describe hot-liquid materials for modified bituminous roofing and hot rubber systems • Install hot rubber system	CL1→HL1/HL2/HL3	8
H6 Apply membranes using cold-applied methods	Install cold-applied modified bitumen materials	CL1→HL1/HL2/HL3	8
H7 Apply membranes using mechanical fasteners	• Describe hot built-up roofing (BUR) materials • Install hot built-up roofing systems	CL1→HL1/HL2/HL3	0.25

H11 Install temporary seals and temporary drains	• Describe hot built-up roofing (BUR) materials • Install hot built-up roofing systems	CL1 → HL1/HL2/HL3	0.25
J1 Determine type and layout of shingles	Wood and composite shingles type and layout	CL1→HL1/HL2/HL3	0.25
J2 Install starter strip and starter course	Wood and composite shingles starter strip/course types and considerations	CL1 → HL1/HL2/HL3	0.25
J3 Fasten shingles	Wood and composite shingles components and considerations, and installation methods	CL1 → HL1/HL2/HL3	0.25
J4 Cut shingles	Wood and composite shingles considerations and installation methods	CL1 → HL1/HL2/HL3	0.25
J6 Install metal flashings for shingled roofs	Wood and composite shingles specific metal flashing requirements, techniques and considerations	CL1 → HL1/HL2/HL3	0.25
GAC APPLY ROOF TILES (K1-K6)	All composite and tiled roof content	CL2 → HL3	18
		TOTAL	**45**

OVERLAP B: CL2→HL3

This table lists the content that an apprentice will be **repeating** if they have completed CL2and then take HL3. Overlaps are identified so that instructors and apprentices are aware of the repeated content. There may be opportunities for transitioned CL1 apprentices to use some of their overlap time to study their gap content.

Competency	Repeated Content	Content Migration	Hours
B1 Use hand tools	Metal shingles and preformed metal panels, and thermoplastics, thermosets, and liquid applied membrane system specific tools	CL1 → HL1/HL2/HL3	0.25
B2 Use power tools, pneumatic tools, and hot-air welding, induction, and fuelled equipment	Metal shingles and preformed metal panels, and thermoplastics, thermosets, and liquid applied membrane system specific tools	CL1 → HL1/HL2/HL3	0.25
B3 Use hoisting, lifting, and rigging equipment	Describe maintenance of hoisting, lifting, and rigging equipment.	CL1 → HL1/HL2/HL3	0.25
B4 Use access equipment	• Use ladders and elevated platforms • Use scaffolding	CL1 → HL1/HL2/HL3	2
B5 Use hot process equipment	Use hot process equipment for thermoplastic (PVC, TPO) and thermoset (EPDM) membranes	CL1 → HL1/HL2/HL3	0.5
B6 Use motorized equipment	• Describe metal shingles and preformed metal panels, and thermoplastics, thermosets, and	CL1 → HL1/HL2/HL3	0.25

	liquid applied membrane system specific equipment. • Describe maintenance of motorized equipment		
C3 Estimate material	• Use math to estimate new material and disposal of old roofing material • Convert to and from metric and imperial measurements • Use geometry for estimations	CL1 → HL3	1
G3 Apply vapour retarder, vapour barrier, and air barrier	Describe flexible membrane roof system	CL2/CL3→HL1/HL2/HL3	1
G7 Apply ballast, walkways, and protective surfaces	Install flexible membrane roof systems	CL2/CL3→HL1/HL2/HL3	0.5
H8 Apply loose-laid membranes	• Describe flexible membrane roof system • Install flexible membrane roof systems	CL2/CL3 → HL3	1
H9 Apply liquid-applied membranes	• Describe flexible membrane roof system • Install flexible membrane roof systems	CL2/CL3 → HL3	1
GAC J: APPLY SHINGLES (J1/J2/J3/J4/J5)	• All content related to metallic roof tiles	CL2/CL3 → HL3	18
GAC L: APPLY PRE-FORMED METAL ROOFING (L1-L6)	• Describe preformed metal tiles and their application. • Install preformed metal tiles.	CL2/CL3 → HL3	18
		TOTAL	**44**

Appendix B: Transition Delivery Guidelines

DEFINITION OF GAPS

A gap is technical training content that an apprentice would be missing if they transition from the current program into the harmonized program. **Not every gap will be addressed by gap training.** The gaps are minimal with this transition however, the overlaps are significant; therefore, **not** allowing reverse transitions is critical.

** Given the minimal gaps between CL1→ HL2 and CL2 →HL3, gap training, dual streaming and Training Provider Support will not be required in this transition plan **

Appendix C: Communication Plan for Transition

Audience	Purpose	Mode
Training Providers	To announce the changes to training standards and the publication of a new Program Outline and Program Profile on the trade webpage on the ITA website	Official Program Standards Notification (OPSN) via email and posting on trade webpage
Training Providers	To plan for transitioning to the new program	Webinar(s), phone calls and/or face to face meetings
Training Providers	To announce the final transition plan	Program Update and Transition Plan via email and posting on trade webpage
Training Providers	To announce the launch of the harmonized level exams	OPSN via email and posting on trade webpage
Employers	To gather input on transition scenarios	Webinar(s), phone calls and/or face to face meetings
Employers	To inform on the upcoming changes to the program and the pathways to completion for their apprentices	Letters sent through ITA Direct Access (DA)
Apprentices	To inform on the upcoming changes to the program and their pathways to completion	Letters sent through ITA Direct Access (DA)

Appendix D: Transition Map