



# Bricklayer

# Guide to Course Content

2023



Online: [www.saskapprenticeship.ca](http://www.saskapprenticeship.ca)

Recognition:

*To promote transparency and consistency, this document has been adapted from the 2021 Bricklayer Red Seal Occupational Standard (Employment and Social Development Canada).*

A complete version of the Occupational Standard can be found at [www.red-seal.ca](http://www.red-seal.ca)

**Note: Bricklayer Apprenticeship Technical Training is now fully harmonized.**

# STRUCTURE OF THE GUIDE TO COURSE CONTENT

To facilitate understanding of the occupation, this guide to course content contains the following sections:

**Description of the Bricklayer trade:** an overview of the trade's duties and training requirements.

**Essential Skills Summary:** an overview of how each of the eight essential skills is applied in this trade.

**Elements of harmonization of apprenticeship training:** includes adoption of Red Seal trade name, number of levels of apprenticeship, total training hours (on-the-job and in-school) and consistent sequencing of technical training content. Implementation for harmonization will take place progressively. Level one will be implemented in 2021/2022, level two 2022/2023 and level three 2023/2024.

**Task Matrix:** a chart which outlines graphically the major work activities, tasks and sub-tasks of this standard detailing the essential skills and the level of training where the content is covered.

**Major Work Activity (MWA):** the largest division within the standard that is comprised of a distinct set of trade activities.

**Task:** distinct actions that describe the activities within a major work activity.

**Sub-task:** distinct actions that describe the activities within a task.

**Training Profile Chart:** a chart which outlines the model for Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training.

**Technical Training Course Content for the Bricklayer trade:** a chart which outlines the model for SATCC technical training sequencing. For the harmonized level of training, a cross reference to the Harmonized apprenticeship technical training sequencing, at the learning outcome level, is provided.

**Appendix A: Post Harmonization Training Profile Chart:** a chart which outlines the finalized model for SATCC technical training sequencing with a cross reference to the Harmonized apprenticeship technical training sequencing, at the topic level.

The Red Seal Bricklayer Curriculum Outline, which provides additional detail of the Harmonized technical training, can be found at [www.red-seal.ca](http://www.red-seal.ca)

# DESCRIPTION OF THE BRICKLAYER TRADE

*Bricklayers lay concrete block, brick, pre-cut stone and other materials in the construction or repairing of structures.*

“Bricklayer” is this trade’s official Red Seal occupational title approved by the CCDA. This standard covers tasks performed by bricklayers.

Bricklayers skills and abilities are in high demand across Canada. They build and repair walls, floors, arches, pavings, partitions, fireplaces, chimneys, smokestacks, furnaces, kilns and other structures. They work with materials such as brick, natural stone, manufactured stone, tiles, precast masonry panels, glass blocks, concrete blocks, light-weight insulated panels, other masonry units, insulation and membranes. They erect, install, maintain, repair and alter various masonry. The structures vary in complexity from a simple masonry walkway to an ornate exterior on a multi-level building.

Bricklayers use wheelbarrows and forklifts to transport materials. They use hand and power tools to cut and trim masonry units to required size. Trowels are used to spread mortar to bond layers of masonry units together. Measuring and layout tools such as a plumb line, level and laser level are used to ensure proper alignment.

Bricklayers work on industrial, commercial, institutional and residential buildings. They may specialize in stone work, restoration work or ornamental work. They may also specialize in installing refractories in high-temperature environments or installing corrosion resistant materials to line corrosive environments such as tanks and vessels.

Key attributes for people in this trade are manual dexterity, mechanical aptitude, the ability to problem solve and think sequentially, and the ability to work at heights. Bricklaying is physically demanding work and requires considerable effort in lifting heavy materials, climbing, bending, kneeling, working in confined spaces and working on scaffolding. Bricklayers have the advantage of developing their artistic abilities as they construct designs on different jobsites. They have an eye for detail in order to create accurate and aesthetically pleasing work.

Most of the work is performed outdoors exposing bricklayers to the elements. The winterization of jobsites allows the work to continue year round. Construction safety and accident prevention is a priority.

This standard recognizes similarities or overlaps with the work of other trades such as tilesetters, concrete finishers, carpenters, and drywall finishers and plasterers.

Experienced bricklayers may have opportunities to travel, advance to supervisory positions for masonry contractors or in other related fields such as construction management, estimating or building inspection. They may also become contractors.

**Training Requirements:** To graduate from each level of the apprenticeship program, an apprentice must successfully complete the required technical training and compile enough on-the-job experience to total at least 1500 hours each year. Total trade time required is 6000 hours and at least 4 years in the trade.

There are three levels of technical training delivered by Saskatchewan Polytechnic in Saskatoon.

- Level One: 8 weeks
- Level Two: 8 weeks
- Level Three: 8 weeks

The information contained in this document serves as a guide for employers and apprentices, as well as briefly summarizes the training delivered at each level of apprenticeship training. An apprentice spends approximately 15% of the apprenticeship term in a technical training institute learning the technical and theoretical aspects of the trade. The hours and percentages of technical and practical training may vary according to class needs and progress.

The content of the technical training components is subject to change without notice.

### Entrance Requirements for Apprenticeship Training

Your grade twelve transcripts (with no modified classes) or GED 12 is your guarantee that you meet the educational entrance requirements for apprenticeship in Saskatchewan. In fact, employers prefer and recommend apprentices who have completed high school. This ensures the individual has all of the necessary skills required to successfully complete the apprenticeship program and receive journey person certification.

Individuals with “modified” or “general” classes in math or science do not meet our entry requirements. These individuals are required to take an entrance assessment prescribed by the SATCC.

English is the language of instruction in all apprenticeship programs and is the common language for business in Saskatchewan. Before admission, all apprentices and/or “upgraders” must be able to understand and communicate in the English language. Applicants whose first language is not English must have a minimum Canadian Language Benchmark Assessment of six (CLB6).

Note: A CLB assessment is valid for a one-year period from date of issue.

Designated Trade Name	Math Credit at the Indicated Grade Level <sup>❶</sup>	Science Credit at Grade Level
Bricklayer	Grade 10	Grade 10
<p><sup>❶</sup> - (One of the following) WA – Workplace and Apprenticeship; or F – Foundations; or P – Pre-calculus, or a Math at the indicated grade level (Modified and General Math credits are not acceptable.).</p> <p>*Applicants who have graduated in advance of 2015-2016, or who do not have access to the revised Science curricula will require a Science at the minimum grade level indicated by trade.</p> <p>For information about high school curriculum, including Math and Science course names, please see:  <a href="http://www.curriculum.gov.sk.ca/#">http://www.curriculum.gov.sk.ca/#</a></p> <p><b>Individuals not meeting the entrance requirements will be subject to an assessment and any required training</b></p>		

# ESSENTIAL SKILLS SUMMARY

Essential skills are needed for work, learning and life. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change.

Through extensive research, the Government of Canada and other national and international agencies have identified and validated nine essential skills. These skills are used in nearly every occupation and throughout daily life in different ways.

A series of CCDA-endorsed tools have been developed to support apprentices in their training and to be better prepared for a career in the trades. The tools can be used independently or with the assistance of a tradesperson, trainer, employer, teacher or mentor to:

- understand how essential skills are used in the trades;
- learn about individual essential skills strengths and areas for improvement; and
- improve essential skills and increase success in an apprenticeship program.

The tools are available online or for order at: [www.esdc.gc.ca/eng/jobs/les/profiles/index.shtml](http://www.esdc.gc.ca/eng/jobs/les/profiles/index.shtml)

The application of these skills may be described throughout this document within the skills and knowledge which support each sub-task of the trade. The most important essential skills for each sub-task have also been identified. The following are summaries of the requirements in each of the essential skills, taken from the essential skills profile. A link to the complete essential skills profile can be found at [www.red-seal.ca](http://www.red-seal.ca).

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## READING

Bricklayers require strong reading skills to read a variety of documentation such as job specifications, manufacturers' directions for product preparation and application, job site, company and jurisdictional safety requirements, and correspondence from suppliers and contractors.

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## DOCUMENT USE

Bricklayers interpret blueprints, read assembly drawings and make sketches of items to be built. They complete forms such as time sheets, incident reports, request for information (RFI), personal safety information (PSI) and field level risk assessments (FLRA).

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## WRITING

Bricklayers use writing skills to complete documents such as lists of materials, incident reports, and time sheets. They may correspond in writing with co-workers regarding supplies or work to be done.

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## ORAL COMMUNICATION

Bricklayers talk with suppliers, delivery personnel, customers and co-workers, and co-ordinate activities with other trades. They give directions to apprentices, liaise with supervisors and participate in meetings.

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## NUMERACY

Bricklayers measure the length, height and width of structures to be built and calculate angles of arches when constructing openings. They estimate mix ratios by weight and volume. Bricklayers estimate the amount of time and material required to complete a job.

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## THINKING SKILLS

Bricklayers use problem solving skills to address issues that may arise on the job such as design changes or omissions. Bricklayers plan the materials and equipment they need for a job and schedule tasks according to priority, sequence and to meet the needs of other trades on site.

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## WORKING WITH OTHERS

Bricklayers usually work in a team environment although they may work alone on some jobs. Many jobs are done with a fellow worker. Therefore, they must cooperate and coordinate with others to ensure consistent work. Bricklayers may perform supervisory functions and guide or monitor the work performance of others.

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## DIGITAL TECHNOLOGY

Bricklayers may use digital devices to complete numeracy related tasks and to communicate with others. They may access online information posted by suppliers and manufacturers to stay current on industry trends and practices. Bricklayers may also access databases to retrieve forms such as change orders and to retrieve architectural drawings. Bricklayers may use computer controlled layout equipment such as surveying equipment and smart levels to measure distances and horizontal and vertical angles of brick structures.

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## CONTINUOUS LEARNING

Bricklayers learn continuously through experience and creativity on the job. They may attend sessions provided by manufacturers of new products. Bricklayers may also attend specialty in-person or online courses, for example safety or landscaping with bricks, blocks and stone, or reference pamphlets, booklets or manuals on specific topics. Bricklayers may need to expand their skills by getting additional certifications such as scaffold building, welding, hoisting and rigging and confined space.

# ELEMENTS OF HARMONIZATION FOR APPRENTICESHIP TRAINING

At the request of industry, the Harmonization Initiative was launched in 2013 to *substantively align* apprenticeship systems across Canada by making training requirements more consistent in the Red Seal trades. Harmonization aims to improve the mobility of apprentices, support an increase in their completion rates and enable employers to access a larger pool of apprentices.

As part of this work, the Canadian Council of the Directors of Apprenticeship (CCDA) identified four main harmonization priorities in consultation with industry and training stakeholders:

## 1. Trade name

The official Red Seal name for this trade is Bricklayer.

## 2. Number of Levels of Apprenticeship

The number of levels of technical training recommended for the Bricklayer trade is three.

## 3. Total Training Hours during Apprenticeship Training

The total hours of training, including both on-the-job and in-school training for the Bricklayer trade is 6000.

## 4. Consistent sequencing of training content (at each level) using the most recent Occupational Standard

Implementation for harmonization took place progressively. Level one is to be implemented in 2021/2022, level 2 2022/2023 and level 3 2023/2024. See Appendix A for the finalized curriculum comparisons.

White boxes are “Topics,” grey boxes are “In Context”. In context means learning that has already taken place and is being applied to the applicable task. Learning outcomes for in context topics are accomplished in other topics in that level.

Level 1 (2021/2022 implementation)	Level 2 (2022/2023 implementation)	Level 3 (2023/2024 implementation)
	Tools and Equipment	Tools and Equipment
	Substrate Preparation	Substrate Preparation
		Natural Stone Walls
	Scaffolding	Scaffolding
		Prefabricated Masonry



<b>Level 1</b> (2021/2022 implementation)	<b>Level 2</b> (2022/2023 implementation)	<b>Level 3</b> (2023/2024 implementation)
<b>Safety-Related Functions</b>		
<b>Tools and Equipment</b>		
<b>Scaffolding</b>		
<b>Organizes work</b>	<b>Organizes work</b>	<b>Organizes work</b>
<b>Communication Techniques</b>		<b>Mentoring Techniques</b>
<b>Substrate Preparation</b>		
<b>Fundamental Masonry Tasks</b>		
<b>Mortars, Grouts and Adhesives</b>	<b>Mortars, Grouts and Adhesives</b>	<b>Mortars, Grouts and Adhesives</b>
<b>Masonry Walls</b>	<b>Masonry Walls</b>	<b>Horizontal Masonry Surfaces</b>
	<b>Prefabricated Masonry</b>	
	<b>Surface-Bonded Masonry Units</b>	
	<b>Natural Stone Walls</b>	<b>Natural Stone Cladding (Mechanically-Fastened)</b>
		<b>Chimneys</b>
		<b>Fireplaces</b>
		<b>Refractories</b>
		<b>Corrosion Resistant Materials</b>
	<b>Masonry Work (Rebuilds)</b>	
	<b>Masonry Work (Repairs and cleans)</b>	<b>Masonry Work (Repairs and cleans)</b>
	<b>Glass Block</b>	
		<b>Ornamental and Sculpted Masonry Units</b>
	<b>Arches</b>	<b>Arches (Removes, repairs and installs)</b>

# BRICKLAYER TASK MATRIX

This chart outlines the major work activities, tasks and sub-tasks from the 2021 Bricklayer Red Seal Occupational Standard. Each sub-task details the corresponding essential skill and level of training where the content is covered. \*

The Task Matrix Chart will be updated every year until Harmonization implementation is complete. Implementation for harmonization will take place progressively. Level one to be implemented in 2021/2022, level 2 in 2022/2023 and level 3 in 2023/2024

\*Sub-tasks with numbers in the boxes are where the content will be delivered in training. Harmonization for the Bricklayer trade has been fully implemented for each technical training level.

## A - Performs common occupational skills

12%

<b>Task A-1 Performs safety-related functions</b>	<b>A-1.01 Maintains safe work environment</b>  1	<b>A-1.02 Uses personal protective equipment (PPE) and safety equipment</b>  1		
<b>Task A-2 Uses and maintains tools and equipment</b>	<b>A-2.01 Maintains tools and equipment</b>  1	<b>A-2.02 Uses rigging, hoisting and lifting equipment</b>  1	<b>A-2.03 Uses access equipment</b>  1	
<b>Task A-3 Uses scaffolding</b>	<b>A-3.01 Erects scaffolding</b>  1	<b>A-3.02 Dismantles scaffolding</b>  1	<b>A-3.03 Maintains scaffolding</b>  1	
<b>Task A-4 Organizes work</b>	<b>A-4.01 Uses drawings and specifications</b>  1, 2, 3	<b>A-4.02 Plans daily tasks and activities</b>  1	<b>A-4.03 Prepares jobsite and materials</b>  1	<b>A-4.04 Protects surrounding areas</b>  1

**Task A-5 Uses communication and mentoring techniques**

**A-5.01 Uses communication techniques**

1

**A-5.02 Uses mentoring techniques**

3

## B - Performs general masonry practices

19%

**Task B-6 Performs substrate preparation**

**B-6.01 Prepares vertical substrates and foundations**

1

**B-6.02 Applies parging**

1

**B-6.03 Installs anchoring/tie systems**

1

**B-6.04 Installs membrane and flashing**

1

**B-6.05 Installs insulation**

1

**Task B-7 Performs fundamental masonry tasks**

**B-7.01 Lays out wall and coursing**

1

**B-7.02 Finishes joints**

1

**B-7.03 Cleans new masonry surfaces**

1

**B-7.04 Seals masonry surfaces**

1

**Task B-8 Uses mortars, grouts and adhesives**

**B-8.01 Mixes mortar, concrete, grout and adhesives**

1, 2, 3

**B-8.02 Uses mortars**

1, 2, 3

**B-8.03 Uses concrete and grout**

1, 2, 3

**B-8.04 Uses adhesives**

1, 2, 3

## C - Builds masonry systems

22%

**Task C-9 Builds masonry walls**

**C-9.01 Builds non-load-bearing walls**

1

**C-9.02 Builds load-bearing walls**

2

**Task C-10 Builds horizontal masonry surfaces**

**C-10.01 Prepares horizontal substrate**

3

**C-10.02 Lays masonry units on horizontal surfaces**

3

<b>Task C-11</b> <b>Builds and installs prefabricated masonry</b>	<b>C-11.01 Builds prefabricated masonry</b>  <p style="text-align: center;">2</p>	<b>C-11.02 Erects prefabricated masonry</b>  <p style="text-align: center;">2</p>
<b>Task C-12 Installs surface-bonded masonry units</b>	<b>C-12.01 Prepares substrate for surface-bonded masonry units</b>  <p style="text-align: center;">2</p>	<b>C-12.02 Applies surface-bonded masonry units</b>  <p style="text-align: center;">2</p>

## D – Builds natural stone systems

**10%**

<b>Task D-13 Builds natural stone walls</b>	<b>D-13.01 Prepares natural stone</b>  <p style="text-align: center;">2</p>	<b>D-13.02 Lays natural stone</b>  <p style="text-align: center;">2</p>	<b>D-13.03 Damp cures walls</b>  <p style="text-align: center;">2</p>
<b>Task D-14 Performs mechanically-fastened natural stone cladding procedures</b>	<b>D-14.01 Prepares substrate for cladding</b>  <p style="text-align: center;">3</p>	<b>D-14.02 Prepares natural stone for cladding</b>  <p style="text-align: center;">3</p>	<b>D-14.03 Installs natural stone cladding</b>  <p style="text-align: center;">3</p>

## E – Builds chimneys and fireplaces

**10%**

<b>Task E-15</b> <b>Builds chimneys</b>	<b>E-15.01 Builds foundation supports for chimneys</b>  <p style="text-align: center;">3</p>	<b>E-15.02 Lays masonry units to build chimneys</b>  <p style="text-align: center;">3</p>	<b>E-15.03 Installs flue lining</b>  <p style="text-align: center;">3</p>	<b>E-15.04 Installs related flashings</b>  <p style="text-align: center;">3</p>	<b>E-15.05 Installs caps</b>  <p style="text-align: center;">3</p>
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<b>Task E-16 Builds fireplaces</b>	<b>E-16.01 Builds foundation for hearth, firebox, backup material and veneer</b>  3	<b>E-16.02 Builds hearth, firebox and backup</b>  3	<b>E-16.03 Installs damper</b>  3	<b>E-16.04 Builds smoke chamber</b>  3	<b>E-16.05 Prepares existing fireplace for insert</b>  3
	<b>E-16.06 Faces fireplaces and inserts</b>  3				

## F - Installs refractories and corrosion resistant materials

9%

<b>Task F-17 Installs and maintains refractories</b>	<b>F-17.01 Prepares for installation of refractories and accessories</b>  3	<b>F-17.02 Prepares mortar for refractories</b>  3	<b>F-17.03 Removes existing refractories</b>  3	<b>F-17.04 Installs refractories</b>  3	<b>F-17.05 Repairs refractories</b>  3
<b>Task F-18 Installs and maintains corrosion resistant materials</b>	<b>F-18.01 Prepares for installation of corrosion resistant materials and accessories</b>  3	<b>F-18.02 Prepares mortar for corrosion resistant materials</b>  3	<b>F-18.03 Removes existing corrosion resistant materials</b>  3	<b>F-18.04 Installs corrosion resistant materials</b>  3	<b>F-18.05 Repairs corrosion resistant materials</b>  3

## G - Performs restoration

11%

<b>Task G-19 Rebuilds masonry work</b>	<b>G-19.01 Disassembles unit masonry</b>  2	<b>G-19.02 Prepares restoration work area</b>  2	<b>G-19.03 Reinstalls masonry and accessories</b>  2
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**Task G-20 Repairs and cleans existing masonry work**

**G-20.01 Removes deteriorated masonry units**

2, 3

**G-20.02 Repoints joints**

2, 3

**G-20.03 Repairs masonry units**

2, 3

**G-20.04 Reinstalls masonry units and accessories**

2, 3

**G-20.05 Cleans existing masonry surfaces**

2, 3

## H – Performs additional masonry

**7%**

**Task H-21 Installs glass blocks**

**H-21.01 Prepares work area for installation of glass blocks**

2

**H-21.02 Lays glass blocks**

2

**Task H-22 Installs ornamental and sculpted masonry**

**H-22.01 Prepares for installation of ornamental and sculpted masonry units**

3

**H-22.02 Installs ornamental and sculpted masonry units**

3

**Task H-23 Builds arches**

**H-23.01 Prepares location for installation of arch**

2,3

**H-23.02 Builds template**

2,3

**H-23.03 Places template**

2,3

**H-23.04 Installs arch masonry units**

2,3

**H-23.05 Removes template**

2,3

# TRAINING PROFILE CHART

This Training Profile Chart represents Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training at the topic level.

Level One	Transcript Code	Hours
Construction Documents 1	BRPT 124	18
Tools and Equipment	EQPT 134	24
Masonry Materials	MATE 121	12
Mortars Grouts and Adhesives	MSON 124	24
Layout and Fundamental Tasks	MSON 104	18
Building Enclosure & Substrate Preparation	MSON 105	24
General Safety & Job-site Communication	SFTY 121	18
Scaffolding	SCAF 121	12
Masonry Systems 1	MSON 106	90
		240

Level Two	Transcript Code	Hours
Construction Documents 2	BPRT 221	30
Basic Masonry Arches	CNST 203	42
Stone Masonry	MSON 200	42
Surface Bonded Masonry	MSON 204	30
Masonry Restoration 1	MSON 205	36
Masonry Systems 2	MSON 206	60
		240

Level Three	Transcript Code	Hours
Construction Documents 3	BPRT 320	24
Refractories and Corrosion Resistant Materials	CNST 323	30
Masonry Restoration 2	MSON 327	12
Advanced Masonry Arches	CNST 324	24
Project Planning	PROJ 301	24
Chimney and Fireplace Construction	CNST 325	60
Masonry Systems 3	MSON 330	30
Masonry Review	REV 320	30
Mentoring	MENT 300	6
		240

# TECHNICAL TRAINING COURSE CONTENT

This chart outlines the model for Saskatchewan Apprenticeship and Trade Certification Commission (SATCC) technical training sequencing. For the harmonized level of training, a cross reference to the Red Seal Occupational Standard (RSOS) apprenticeship technical training sequencing, at the learning outcome level, is provided.

Implementation for harmonization took place progressively. Level one was implemented in 2021/2022, level 2 in 2022/2023 and level 3 in 2023/2024.

<b>Level One</b>	<b>8 weeks</b>	<b>240 hours</b>
<b>Construction Documents and Sketching</b>		<b>18 hours</b>
<ul style="list-style-type: none"><li>• identify construction documents</li><li>• interpret measurement systems and scales</li><li>• identify construction drawing language</li><li>• compare various types of drawings</li><li>• perform basic math used in construction</li></ul>		
<b>RSOS topics covered in this section of training:</b>		
<b>A-4 Organizes Work</b>		
A-4.01 Uses drawings and specifications		
<ul style="list-style-type: none"><li>• drawings and specifications</li><li>• procedures to draw sketches</li></ul>		
<b>Tools and Equipment</b>		<b>24 hours</b>
<ul style="list-style-type: none"><li>• identify measuring and layout tools</li><li>• identify masonry hand tools</li><li>• identify portable power tools used in the masonry trade</li><li>• identify tools and equipment used to mix mortar and grout</li><li>• identify tools and equipment used for moving materials</li><li>• operate tools and equipment used in the masonry trade</li><li>• describe the safe use of powder actuated tools</li></ul>		
<b>RSOS topics covered in this section of training:</b>		
<b>A-2 Uses and maintains tools and equipment</b>		
A-2.01 Maintains tools and equipment		
<ul style="list-style-type: none"><li>• maintaining tools and equipment</li><li>• procedures to maintain tools and equipment</li></ul>		
<b>Masonry Materials</b>		<b>12 hours</b>
<ul style="list-style-type: none"><li>• describe clay products</li><li>• describe concrete products</li><li>• describe additional masonry products</li></ul>		
<b>RSOS topics covered in this section of training:</b>		
<b>B-7 Performs fundamental masonry tasks</b>		
B-7.01 Lays out wall and coursing		
<ul style="list-style-type: none"><li>• laying out wall and coursing</li></ul>		



- procedures to lay out wall and coursing

### **C-9 Builds masonry walls**

#### **C-9.01 Builds non-load bearing wall**

- non-load bearing walls
- procedures to build non-load bearing walls

## **Mortars, Grouts and Adhesives**

**24 hours**

- identify the characteristics and properties of mortar
- mix mortar to a workable state
- perform mortar joint finishes
- describe concrete design and mixing
- identify adhesives used in masonry construction
- identify building code requirements for mortar and concrete

### **RSOS topics covered in this section of training:**

#### **B-7 Performs fundamental masonry tasks**

##### **B-7.02 Finishes joints.**

- finishing joints
- procedures to finish joints

#### **B-8 Uses mortar, grouts and adhesives**

##### **B-8.01 Mixes mortar, grout and adhesives**

- mortar, concrete, grouts and adhesives
- procedures to mix mortar, concrete, grouts and adhesives

##### **B-8.03 Uses concrete and grout**

- concrete and grout
- procedures to apply concrete and grout

## **Layout and Fundamental Tasks**

**18 hours**

- practice job-site setup
- perform building layout procedures
- identify masonry unit positions and bond patterns
- describe procedures for masonry wall layout
- describe cleaning and sealing new masonry surfaces

### **RSOS topics covered in this section of training:**

#### **A-4 Organizes work**

##### **A-4.02 Plans daily tasks and activities**

- planning daily tasks and activities
- procedures to plan daily tasks and activities

##### **A-4.03 Prepares jobsite and materials**

- preparing jobsite and materials
- procedures to prepare jobsite and materials

##### **A-4.04 Protects surrounding areas.**

- protecting surrounding areas
- procedures to protect surrounding areas

#### **B-7 Performs fundamental masonry tasks**

##### **B-7.01 Lays out walls and coursing.**

- laying out wall and coursing
- procedures to lay out wall and coursing

##### **B-7.03 Cleans new masonry surfaces**

- cleaning masonry surfaces

- procedures to clean masonry surfaces
- B-7.04 Seals masonry surfaces.
- sealing masonry surfaces
  - procedures to seal masonry surfaces

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## **Building Enclosure & Substrate Preparation**

**24 hours**

- describe substrates, foundations and parging procedures
- identify masonry anchors and ties
- describe the building enclosure
- identify air barriers
- identify vapour barriers
- identify insulations

### **RSOS topics covered in this section of training:**

#### **B-6 Performs substrate preparation**

B-6.01 Prepares vertical substrates and foundations

- preparing substrates and foundations
- procedures to prepare substrates and foundations

B-6.02 Applies parging

- preparing parging
- procedures to apply parging

B-6.03 Installs anchor and tie systems

- anchoring/tie system
- procedures to install anchoring/tie systems

B-6.04 Installs membranes and flashing

- membranes and flashing
- procedures to install membranes and flashings

B-6.05 Installs insulation

- insulation
- procedures to install insulation

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## **General Safety and Jobsite Communications**

**18 hours**

- identify occupational health and safety regulations
- select personal protective equipment
- identify fall protection equipment
- identify unsafe working environments and hazard control
- practice hazard identification and control
- identify WHMIS 2015 (GHS)
- use effective communication techniques

### **RSOS topics covered in this section of training:A-1 Performs safety related functions**

A-1.01 Maintains safe work environment

- maintaining safe work environments
- procedures to maintain a safe work environment

A-1.02 Uses PPE and safety equipment

- PPE and safety equipment
- procedures to use PPE and safety equipment

---

## **Scaffolding**

**12 hours**

- describe the safe use of ladders and scaffolding
- describe the erection, maintenance, and dismantling of metal access scaffolds
- identify basic rigging operations

### **RSOS topics covered in this section of training:**

#### **A-2 Uses and maintains tools and equipment**

##### **A-2.02 Uses rigging, hoisting and lifting equipment**

- operating and maintaining rigging, hoisting and lifting equipment
- operating and maintaining material handling equipment
- procedures to operate and maintain rigging, hoisting and lifting equipment
- procedures to operate and maintain material handling equipment

##### **A-2.03 Uses access equipment**

- operating and maintaining access equipment
- procedures to operate and maintain access equipment

#### **A-3 Uses Scaffolds**

##### **A-3.01 Erects scaffolding**

- scaffolding
- procedures to erect scaffolding

##### **A-3.02 Dismantles scaffolding**

- scaffolding
- procedures to dismantle scaffolding, their components and safety accessories

##### **A-3.03 Maintains scaffolding**

- scaffolding
- procedures to maintain and store scaffolding

---

## **Masonry Systems 1**

**90 hours**

- identify masonry wall systems
- identify masonry wall elements
- identify ornamental bond patterns
- identify building code requirements for masonry wall systems
- describe procedures for laying masonry units
- construct various wall systems

### **RSOS topics covered in this section of training:**

#### **C-9 Builds masonry walls**

##### **C-9.01 Builds non-load bearing walls**

- non-load bearing walls
- procedures to build non-load bearing walls

---

**No Level One topics from the RSOS are taught in context.**

---

## Level Two

8 weeks

240 hours

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### Construction Documents 2

30 hours

- interpret various types of drawings
- use residential construction documents
- solve geometric problems in the construction industry
- perform material estimating procedures

**RSOS topics covered in this section of training:**

#### A-4 Organizes work

A-4.01 Uses drawings and specifications

- drawings and specifications
  - procedures to draw sketches
- 

### Basic Masonry Arches

42 hours

- identify types of arches and their components
- calculate arch geometries
- construct a temporary arch support
- construct a rough masonry arch

**RSOS topics covered in this section of training:**

#### H-23 Builds arches

H-23.01 Prepares location for installation of arch

- arches
- procedures to prepare location to build arch

H-23.02 Builds template

- arches
- procedures to construct template

H-23.03 Places template

- arches
- procedures to place template

H-23.04 Installs masonry arch units

- arches
- procedures to install arch masonry units

H-23.05 Removes template

- arches
  - procedures to removes templates
- 

### Stone Masonry

42 hours

- identify classifications of stone
- prepare stone for installation
- identify techniques for laying stone
- construct a natural full bed stone wall

**RSOS topics covered in this section of training:**

#### D-13 Builds natural stone walls

D-13.01 Prepares natural stone

- natural stone
- procedures to prepare natural stone

D-13.02 Lays natural stone

- laying natural stone

- procedures to lay natural stone
- D-13.03 Damp cures walls
- damp curing walls
  - procedures to damp cure walls

---

### **Surface Bonded Masonry**

**30 hours**

- identify surface bonded masonry
- prepare substrate for surface bonded masonry
- apply surface bonded masonry units

#### **RSOS topics covered in this section of training:**

#### **C-12 Installs surface bonded masonry units**

- C-12.01 Prepares substrate for surface-bonded masonry units.
- preparing substrate for surface-bonded masonry surfaces
  - procedures to prepare substrate for surface-bonded masonry units
- C-12.02 Applies surface bonded masonry units.
- installing surface-bonded masonry units
  - procedures to install surface-bonded masonry units

---

### **Masonry Restoration 1**

**36 hours**

- analyze restoration requirements for existing buildings
- demonstrate restoration procedures

#### **RSOS topics covered in this section of training:**

#### **G-19 Rebuilds masonry work**

- G-19.01 Disassembles unit masonry
- rebuilding masonry
  - procedures to disassemble unit masonry
- G-19.02 Prepares restoration work area
- rebuilding masonry
  - procedures to prepare restoration area
- G-19.03 Reinstalls masonry and accessories
- rebuilding masonry
  - procedures to reinstall masonry and accessories

#### **G-20 Repairs and cleans existing masonry work**

- G-20.01 Removes deteriorated masonry units.
- removing deteriorated masonry units
  - procedures to remove deteriorated masonry units
- G-20.02 Repoints joints
- repointing joints
  - procedures to repoint joints
- G-20.03 Repairs masonry units
- repairing masonry units
  - procedures to repair masonry units
- G-20.04 Reinstalls masonry units and accessories
- reinstalling masonry units and accessories
  - procedures to reinstall masonry units and accessories
- G-20.05 Cleans existing masonry surfaces
- cleaning existing masonry
  - procedures to clean existing masonry

---

## Masonry Systems 2

60 hours

- identify load-bearing masonry assemblies
- identify reinforced masonry principles
- construct reinforced masonry
- identify prefabricated masonry
- construct glass block masonry

### RSOS topics covered in this section of training:

#### C-9 Builds masonry walls

##### C-9.02 Builds load-bearing walls

- load-bearing walls
- procedures to build load-bearing walls

#### C-11 builds and installs prefabricated masonry

##### C-11.01 Builds prefabricated masonry

- installing prefabricated masonry units
- procedures to install prefabricated masonry units

##### C-11.02 Erects prefabricated masonry

- erecting prefabricated masonry units
- procedures to erecting prefabricated masonry units

#### H-21 Installs glass blocks

##### H-21.01 Prepares work area for installation of glass blocks

- glass blocks, their characteristics and applications
- procedures to install glass blocks

##### H-21.02 Lays glass blocks

- glass blocks, their characteristics and applications
- procedures to install glass blocks

---

### Level Two topics from the RSOS that are taught in context:

*Tools and Equipment*

*Substrate Preparation*

*Scaffolding*

*For details regarding the In Context Topic, see page 28*

---

## Level Three

8 weeks

240 hours

---

### Construction Documents 3

24 hours

- interpret specifications and contracts
- interpret drawings and details for renovations
- interpret institutional, commercial and industrial type drawings

#### RSOS topics covered in this section of training:

##### A-4 Organizes work

###### A-4.01 Uses drawings and specifications

- drawings and specifications
  - procedures to draw sketches
- 

### Refractories and Corrosion Resistant Materials

30 hours

- define refractory safety procedures
- identify common refractory vessels and their use
- identify refractory materials and accessories
- identify corrosion resistant materials and accessories
- describe the removal and repair of refractory and corrosion resistant materials
- describe installation procedures for refractory and corrosion resistant materials

#### RSOS topics covered in this section of training:

##### F-17 Installs and maintains refractories

###### F-17.01 Prepares for installation of refractories and accessories

- refractories and accessories
- procedures to prepare for installation of refractories and accessories

###### F-17.02 Prepares mortar for refractories

- installation of refractories and accessories
- procedures to prepare mortar for refractories

###### F-17.03 Removes existing refractories

- installation of refractories and accessories
- procedures to remove existing refractories

###### F-17.04 Installs refractories

- refractories and accessories
- procedures to install refractories

###### F-17.05 Repairs refractories

- refractories and accessories
- procedures to repair refractories and accessories

##### F-18 Installs and maintains corrosion resistant materials

###### F-18.01 Prepares for installation of corrosion resistant materials and accessories

- installation and maintenance of corrosion resistant materials
- procedures to install and maintain corrosion resistant materials

###### F-18.02 Prepares mortar for corrosion resistant materials

- installation and maintenance of corrosion resistant material
- procedures to prepare mortar for corrosion resistant materials

###### F-18.03 Removes existing corrosion resistant materials

- installation and maintenance of corrosion resistant material
- procedures to remove existing corrosion resistant materials

###### F-18.04 Installs corrosion resistant materials

- installation and maintenance of corrosion resistant material

- procedures to install corrosion resistant materials
- F-18.05 Repairs corrosion resistant materials
- installation and maintenance of corrosion resistant material
  - procedures to repair corrosion resistant materials

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## **Masonry Restoration 2**

**12 hours**

- describe restoration procedures
- perform restoration procedures

### **RSOS topics covered in this section of training:**

#### **G-19 Builds masonry work**

##### G-19.01 Disassembles unit masonry

- rebuilding masonry
- procedures to disassemble unit masonry

##### G-19.02 Prepares restoration work area

- rebuilding masonry
- procedures to prepare restoration area

##### G-19.03 Reinstalls masonry and accessories

- rebuilding masonry
- procedures to reinstall masonry and accessories

#### **G-20 Repairs and cleans existing masonry work**

##### G-20.01 Removes deteriorated masonry units

- removing deteriorated masonry units
- procedures to remove deteriorated masonry units

##### G-20.02 Repoints joints

- removing deteriorated masonry units
- procedures to repoint joints

##### G-20.03 repairs masonry units

- removing deteriorated masonry units
- procedures to repair masonry units

##### G-20.04 Reinstalls masonry units and accessories

- removing deteriorated masonry units
- procedures to reinstall masonry units and accessories

##### G-20.05 Cleans existing masonry surfaces

- removing deteriorated masonry units
- procedures to clean existing masonry surfaces

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## **Advanced Masonry Arches**

**24 hours**

- identify procedures for constructing gauged arches
- review arch terminology and arch types
- construct a gauged arch

### **RSOS topics covered in this section of training:**

#### **H-23 Builds arches**

##### H-23.01 Prepares location for installation of arch

- arches
- procedures to prepare location to build arch

##### H-23.02 Builds template

- arches
- procedures to construct template

##### H-23.03 Places template

- arches



- procedures to place template
- H-23.04 Installs arch masonry units
- arches
  - procedures to install arch masonry units
- H-23.05 Removes template
- arches
  - procedures to remove templates

### **Project Planning**

**24 hours**

- identify quantity survey procedures for masonry construction
- identify procedures for calculating labour costs
- prepare a job cost estimate

#### **RSOS topics covered in this section of training:**

#### **A-4 Organizes work**

- A-4.02 Plans daily tasks and activities
- planning daily tasks and activities
  - procedures to plan daily tasks and activities
- A-4.03 Prepares jobsite and materials
- preparing jobsite and materials
  - procedures to prepare jobsite and materials

### **Chimney and Fireplace Construction**

**60 hours**

- describe chimneys
- identify components of masonry fireplaces
- identify building code requirements for masonry chimneys and fireplaces
- construct a masonry fireplace and chimney

#### **RSOS topics covered in this section of training:**

#### **E-15 Builds chimneys**

- E-15.01 Builds foundation supports for chimneys
- building foundation supports for chimneys
  - procedures to build foundation supports for chimneys
- E-15.02 Lays masonry units to build chimneys
- laying masonry units to build chimneys
  - procedures to lay masonry units
- E-15.03 Install flue lining
- flue lining
  - procedures to install flue lining
- E-15.04 Installs related flashings
- flashing installing in chimneys
  - procedures to install flashings
- E-15.05 Installs caps
- cap installation in chimneys
  - procedures to install caps

#### **E-16 Builds fireplaces**

- E-16.01 Builds foundation for hearth, firebox, backup material and veneer
- building foundation for hearth, firebox, backup material and veneer
  - procedures to build foundation for hearth, firebox, backup material and veneer
- E-16.02 Builds hearth, firebox and backup
- building hearth, firebox and backup
  - procedures to build hearth, firebox and backup



- E-16.03 Installs damper
  - installing dampers
  - procedures to install dampers
- E-16.04 Builds smoke chamber
  - building smoke shelf and smoke chambers
  - procedures to build smoke shelf and smoke chambers
- E-16.05 Prepares existing fireplace for insert
  - maintaining fireplaces
  - procedures to preparing existing fireplaces
- E-16.06 Faces fireplaces and inserts
  - facing fireplaces and inserts
  - procedures to face fireplaces and inserts

---

### **Masonry Systems 3**

**30 hours**

- describe horizontal masonry construction
- construct horizontal masonry
- describe natural stone cladding systems
- describe installation procedures for sculpted and ornamental masonry

#### **RSOS topics covered in this section of training:**

#### **C-10 Builds horizontal masonry surfaces**

- C-10.01 Prepares horizontal substrate
  - building horizontal substrate
  - procedures used to prepare horizontal substrate
- C-10.02 Lays masonry units on horizontal surfaces
  - laying masonry units on horizontal surfaces
  - procedures used to lay masonry units on horizontal surfaces

#### **D-14 Performs mechanically fastened natural stone cladding procedures**

- D-14.01 Prepares substrate for cladding
  - natural stone cladding
  - procedures to prepare substrate for natural stone cladding
- D-14.02 Prepares natural stone for cladding
  - natural stone cladding
  - procedures to prepare natural stone for cladding
- D-14.03 Installs natural stone cladding
  - installing natural stone cladding
  - procedures to install natural stone cladding

#### **H-Installs ornamental and sculpted masonry**

- H22.01 Prepares for installation of ornamental sculpted masonry units
  - ornamental and sculpted masonry
  - procedures to prepare of installation of ornamental and sculpted masonry
- H22.02 Installs ornamental and sculpted masonry units
  - ornamental and sculpted masonry
  - procedures to install ornamental and sculpted masonry units

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### **Masonry Review**

**30 hours**

- review common occupational skills
- review general masonry practices
- review masonry systems
- review natural stone systems
- review chimneys and fireplaces

- 
- review refractories and corrosion resistant materials
  - review restoration
  - review additional masonry

**RSOS topics covered in this section of training:**

**A-Performs common occupational skills**

**B-Performs general masonry practice**

**C-Builds masonry systems**

**D-Builds natural tone systems**

**E-Builds chimneys and fireplaces**

**F-Installs refractories and corrosion resistant materials**

**G-Performs restoration**

**H-Performs additional masonry**

---

### **Mentoring**

**6 hours**

- describe mentoring techniques
- use mentoring techniques

**RSOS topics covered in this section of training:**

**A-5 Uses communication and mentoring techniques**

A-5.02 Uses mentoring techniques

- strategies for learning skills in workplace
  - strategies for teaching workplace skills
- 

**Level Three topics from the RSOS that are taught in context:**

*Tools and Equipment*

*Substrate Preparation*

*Natural Stone Walls*

*Scaffolding*

*Prefabricated Mason*

*For details regarding the In Context Topic, see page 28*



# In Context Topics

In context means learning that has already taken place and is being applied to the applicable task. Learning outcomes for in context topics are accomplished in other topics in that level.

## **A – Performs common occupational skills**

### **A-2 Uses and maintains tools and equipment**

#### A-2.01 Maintains tools and equipment

- maintaining tools and equipment
- procedures to maintain tools and equipment

#### A-2.02 Uses rigging, hoisting and lifting equipment.

- operating and maintaining rigging, hoisting and lifting equipment
- operating and maintaining material handling equipment
- procedures to operate and maintain rigging, hoisting and lifting equipment
- procedures to operate and maintain material handling equipment

#### A-2.03 Uses access equipment.

- operating and maintaining access equipment
- procedures to operate and maintain access equipment

#### A-2.03 Uses access equipment.

- operating and maintaining access equipment
- procedures to operate and maintain access equipment

## **A-3 Uses Scaffolding**

### A-3. Erects scaffolding

- scaffolding
- procedures to erect scaffolding

### A-2.03 Dismantles scaffolding

- scaffolding
- procedures to dismantle scaffolding, their components and safety accessories

### A-2.03 Maintains scaffolding.

- scaffolding
- procedures to operate and maintain scaffolding

## **B – Performs general masonry practices**

### **B-6 Performs substrate preparation**

#### B-6.01 Prepares vertical substrates and foundations

- preparing substrates and foundations
- procedures to prepare substrates and foundations

#### B-6.02 Applies parging

- preparing parging
- procedures to apply parging

#### B-6.03 Installs anchoring/ tie systems

- anchoring/tie system
- procedures to install anchoring/tie systems

#### B-6.04 Installs membrane and flashing

- membranes and flashings
- procedures to install membranes and flashings

#### B-6.05 Installs insulation

- insulation
- procedures to install insulation

## **C-11 Builds and installs prefabricated masonry**

### C-11.01 Builds prefabricated masonry

- building and installing prefabricated masonry units
- procedures to build prefabricated masonry units

- C-11.02 Erects prefabricated masonry
- erecting prefabricated masonry units
  - procedures to erect prefabricated masonry units

## **D- Building natural stone systems**

### **D-13 Builds natural stone walls**

- D-13.01 Prepares natural stone
- natural stone walls
  - procedures to prepare natural stone
- D-13.02 Lays natural stone
- laying natural stone
  - procedures to lay natural stone
- D-13.03 Damp cures walls
- damp curing walls
  - procedures to damp curing walls

# APPENDIX A: POST HARMONIZATION TRAINING PROFILE CHART

This chart which outlines the finalized model for SATCC technical training sequencing with a cross reference to the Harmonized apprenticeship technical training sequencing, at the topic level.

Implementation for harmonization was implemented progressively. Level one was implemented in 2021/2022, level two in 2022/2023 and level three in 2023/2024.

SATCC Level One	Transcript Code	Hours	Pan-Canadian Harmonized Level One
Construction Documents and Sketching	BPRT 134	18	Organizes work
Tools and Equipment	EQPT 134	24	Safety-Related Functions Tools and Equipment
Masonry Materials	MATE 121	12	Clay and Concrete Masonry Materials
Mortars, Grouts and Adhesives	MSON 124	24	Mortars, Grouts and Adhesives
Layout and Fundamental Tasks	MSON 104	18	Elevations, Jobsite Preparation and Building Layout
Building Enclosure and Substrate Preparation	MSON 105	24	Substrate Preparation
General Safety and Job-Site Communication	SFTY 121	18	Communication Techniques
Scaffolding	SCAF 121	12	Scaffolding
Masonry Systems 1	MSON 106	90	Fundamental Masonry Tasks
			Masonry Walls
		240	

SATCC Level Two	Transcript Code	Hours	Pan-Canadian Harmonized Level Two
			Tools and Equipment (In-Context)
			Substrate Preparation (In-Context)
			Scaffolding (In-Context)
Construction Documents 2	BPRT 221	30	Organizes Work
Basic Masonry Arches	CNST 203	42	Arch construction and supports
Stone Masonry	MSON 200	42	Mortars, Grouts and Adhesives
Surface Bonded Masonry	MSON 2XX	30	Surface-Bonded Masonry Units
Masonry Restoration 1	MSON 2XX	36	Masonry Work (Rebuilds)
Masonry Systems 2	MSON 2XX	60	Prefabricated masonry
			Masonry Walls
		240	

SATCC Level Three	Transcript Code	Hours	Pan-Canadian Harmonized Level Three
			Tools and Equipment (In-Context)
			Substrate Preparation (In-Context)
			Natural Stone Walls (In-Context)
			Scaffolding (In-Context)
			Prefabricated Masonry (In-Context)
Construction Documents 3	BPRT 320	24	Organizes Work
Project Planning	PROJ 301	24	
Refractories and Corrosion Resistant Materials	CNST 323	30	Refractories
			Corrosion Resistant Materials
Masonry Restoration 2	MSON 327	12	Restoration Procedures
Advanced Masonry Arches	CNST 324	24	Arches
Project Planning	PROJ 301	24	
Chimney and Fireplace Construction	CNST 325	60	Chimneys
			Fireplaces
Masonry Systems 3	MSON 330	30	Horizontal Masonry Surfaces
Masonry Review	REV 320	30	Exceeds
Mentoring	XXXX 3XX	6	Mentoring
		240	

Exceed Topics

Throughout this guide to course content there are topics which exceed the minimum scope of work as set out in the Bricklayer RSOS. Industry in Saskatchewan has deemed certain topics to fall within the scope of work of the Bricklayer trade in Saskatchewan and therefore require technical training to cover these topics.