



# Glazier

## Guide to Course Content



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

*Recognition:*

*To promote transparency and consistency, this document has been adapted from the 2020 Glazier 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)*

# STRUCTURE OF THE GUIDE TO COURSE CONTENT

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

**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 Alberta Apprenticeship technical training.

# TRAINING REQUIREMENTS FOR THE GLAZIER TRADE

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 1800 hours each year. Total trade time required is 7200 hours and at least 4 years in the trade.

There are four levels of technical training which are delivered outside of the province of Saskatchewan:

Level One: 6 weeks

Level Two: 6 weeks

Level Three: 6 weeks

Level Four: 6 weeks

The information contained in this guide to course content details the technical training delivered for each level of apprenticeship. An apprentice spends approximately 15% of their 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 journeyman 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.

Designated Trade Name	Math Credit at the Indicated Grade Level❶	Science Credit at Grade Level
<b>Glazier</b>	<b>WA 10 or F 10 or P 10 or Math 10</b>	Grade 10

❶ - (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.).

\*Applicants are recommended to take Chemistry 20 or Physics 30 or English and Math at Level 30 prior to course.

\*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.

For information about high school curriculum, including Math and Science course names, please see:  
<http://www.curriculum.gov.sk.ca/#>

**Individuals not meeting the entrance requirements will be subject to an assessment and any required training.**

# GLAZIER TASK MATRIX

This chart outlines the major work activities, tasks and sub-tasks from the 2020 Glazier Red Seal Occupational Standard. Each sub-task details the corresponding essential skill.

## A - Performs common occupational skills

17%

<b>Task A-1 Performs safety-related functions</b>	<b>1.01 Maintains safe work environment</b>	<b>1.02 Uses personal protective equipment (PPE) and safety equipment</b>			
<b>Task A-2 Uses tools and equipment</b>	<b>2.01 Uses hand tools</b>	<b>2.02 Uses portable and stationary power tools</b>	<b>2.03 Uses layout and measuring equipment</b>	<b>2.04 Uses access equipment</b>	
<b>Task A-3 Uses rigging, hoisting and lifting equipment</b>	<b>3.01 Uses rigging equipment</b>	<b>3.02 Uses hoisting and lifting equipment</b>			
<b>Task A-4 Organizes work</b>	<b>4.01 Uses documentation and reference material</b>	<b>4.02 Interprets plans, drawings and specifications</b>	<b>4.03 Prepares list of materials and supplies</b>	<b>4.04 Plans project tasks</b>	
<b>Task A-5 Performs routine trade activities</b>	<b>5.01 Prepares worksite</b>	<b>5.02 Handles glass and other materials</b>	<b>5.03 Prepares materials for installation</b>	<b>5.04 Stores glass and other materials</b>	<b>5.05 Performs glass cutting and edge treatment</b>

**5.06 Installs building envelope membrane**

**5.07 Install flashing**

**5.08 Applies sealants**

**B – Fabricates and installs commercial window and door systems**

**34%**

**Task B-7 Fabricates commercial window and door systems**

**7.01 Fabricates curtain walls**

**7.02 Fabricates storefronts**

**7.03 Fabricates window systems**

**7.04 Fabricates skylights and sloped glazing systems**

**7.05 Fabricates entrance systems**

**Task B-8 Installs commercial window and door systems**

**8.01 Lays out commercial window and door systems**

**8.02 Installs curtain wall systems**

**8.03 Installs storefront systems**

**8.04 Installs window systems**

**8.05 Installs skylights and sloped glazing systems**

**8.06 Installs entrance systems**

## C – Installs residential window and door systems

14%

<b>Task C-9 Installs residential window systems</b>	<b>9.01 Lays out residential window systems</b>	<b>9.02 Sets windows in openings</b>	<b>9.03 Glazes windows</b>		
<b>Task C-10 Installs residential door systems</b>	<b>10.01 Lays out residential door systems</b>	<b>10.02 Assembles residential door frames</b>	<b>10.03 Sets residential doors and frames</b>	<b>10.04 Installs residential door hardware</b>	<b>10.05 Glazes residential doors</b>

## D – Fabricates and installs specialty glass, products and glass systems

16%

<b>Task D-11 Fabricates and installs commercial specialty glass and products</b>	<b>11.01 Lays out commercial specialty glass and products</b>	<b>11.02 Assembles commercial specialty glass, products and hardware</b>	<b>11.03 Installs commercial specialty glass, products and hardware</b>
<b>Task D-12 Fabricates and installs residential specialty glass and products</b>	<b>12.01 Lays out residential specialty glass and products</b>	<b>12.02 Assembles residential specialty glass, products and hardware</b>	<b>12.03 Installs residential specialty glass, products and hardware</b>

## E – Performs servicing

19%

<b>Task E-13 Services commercial window and door systems</b>	<b>13.01 Assesses service requirements for commercial window and door systems</b>	<b>13.02 Repairs commercial window and door systems</b>
<b>Task E-14 Services residential window and door systems</b>	<b>14.01 Assesses service requirements for residential window and door systems</b>	<b>14.02 Repairs residential window and door systems</b>
<b>Task E-15 Services specialty glass and products</b>	<b>15.01 Assesses services requirements for specialty glass and products</b>	<b>15.02 Repairs specialty glass and products</b>

# TRAINING PROFILE CHART

This Training Profile Chart represents Alberta’s NAIT/SAIT technical training at the topic level.

<b>Level One</b>
Standard Workplace Safety
Tools and Construction Products
Glass and Glass Fabrication 1
Glazing and Service 1
Window Systems
Math and Drawing Interpretation 1

<b>Level Two</b>
Glass and Glass Fabrication 2
Glazing and Service 2
Construction Product Application
Frames and Door Systems
Math and Drawing Interpretation 2

<b>Level Three</b>
Frame Systems 1
Door Systems 1
Glazing and Service 3
Sloped Glazing Systems
Math and Drawing Interpretation 3

<b>Level Four</b>
Red Seal Programs and Specialty Products
Frame Systems 2
Door Systems 2
Glazing and Service 4
Math and Drawing Interpretation 4

# TECHNICAL TRAINING COURSE CONTENT

This chart outlines the model for Alberta's NAIT/SAIT technical training.

<b>Level One</b>	<b>6 weeks</b>	<b>180 hours</b>
<b>Standard Workplace Safety</b>		
<ul style="list-style-type: none"><li>• apply legislation, regulations and practices</li><li>• use industry standard practices for climbing, lifting, rigging and hoisting</li><li>• apply industry standard practices for hazardous materials and fire protection</li><li>• describe the safety procedures of scaffolding and access equipment</li><li>• operate swing stage scaffold system</li></ul>		
<b>Tools and Construction Products</b>		
<ul style="list-style-type: none"><li>• use and maintain hand tools</li><li>• operate and maintain portable saws and their applications</li><li>• operate and maintain stationary power tools</li><li>• use fasteners, adhesives and sealants</li></ul>		
<b>Glass and Glass Fabrication 1</b>		
<ul style="list-style-type: none"><li>• recognize common types of glass</li><li>• perform methods of glass storage and handling</li><li>• describe the glass manufacturing process</li><li>• perform cutting and edging of glass</li></ul>		
<b>Glazing and Service 1</b>		
<ul style="list-style-type: none"><li>• operate and maintain glazing tools used in the trade</li><li>• fabricate window screening products</li><li>• use codes and standards pertaining to the glazing industry</li><li>• describe automotive glass removal and installation procedures</li><li>• service flat glass products</li></ul>		
<b>Window Systems</b>		
<ul style="list-style-type: none"><li>• install residential window systems</li><li>• fabricate and install a light commercial ribbon window system</li></ul>		

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## **Math and Drawing Interpretation 1**

- solve basic math problems
  - solve ratio, proportion and percentage problems
  - calculate quantities of glazing materials
  - interpret residential and light commercial drawings
  - produce orthographic and isometric drawings
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**Level Two****6 weeks****180 hours**

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**Glass and Glass Fabrication 2**

- perform the layout, fabrication and installation of mirrors
- recognize types of specialty glass and their applications
- cut glass to various shapes
- apply techniques for glass fabrication
- recognize the procedures for sandblasting, etching and film application on glass

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**Glazing and Service 2**

- install and service residential glazing products
- describe service fundamentals for commercial glazing products
- troubleshoot and repair store front entrance systems
- remove and install auxiliary auto glass

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**Construction Product Application**

- install glazing compounds and sealants
- describe the concept of building envelope science

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**Frames and Door Systems**

- fabricate and install a commercial frame and door system
- identify flashing and panels

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**Math and Drawing Interpretation 2**

- perform perimeter and area calculations related to trade based problems
  - produce basic shop drawings
  - perform drawing interpretation tasks relating to basic architectural drawings and specifications
  - determine basic material requirements to complete a job
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## Level Three

6 weeks

180 hours

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### Frame Systems 1

- identify aluminum framing components including finishes, properties and extrusions
  - fabricate and install a single level curtain wall
  - fabricate and install a basic frame system
  - design and install flashings and panels
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### Door Systems 1

- describe commercial door systems
  - describe associated door hardware
  - install an aluminum swing door
  - install an all glass entrance system
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### Glazing and Service 3

- assess and repair a structural glazing system
  - install a structural glazing system
  - install common types of building envelope components
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### Sloped Glazing Systems

- install and repair sloped glazing systems
  - describe the installation and repair of skylights
  - install skylight system
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### Math and Drawing Interpretation 3

- use design factors when designing glazing systems
  - interpret architectural and structural drawings
  - interpret project specifications
  - produce a shop drawing
  - generate material takeoffs
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## Level Four

6 weeks

180 hours

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### Red Seal Programs and Specialty Products

- use Red Seal products used to challenge an Interprovincial examination
  - use coaching skills when training an apprentice
  - assess barrier free entrance system operation
  - assess automatic door operations
  - identify specialty products and emerging technologies in the glazing industry
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### Frame Systems 2

- install curtain wall systems
  - fabricate and install a multi-level curtain wall
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### Door Systems 2

- install specialty commercial doors
  - install and service specialty door hardware
  - fabricate and install a storefront frame system
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### Glazing and Service 4

- describe specialty glazing systems and their applications
  - install specialty glazing systems
  - install a building envelope system
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### Math and Drawing Interpretation 4

- generate a curtain wall shop drawing
  - interpret a commercial drawing
  - interpret project specifications
  - estimate labour and material quantities for a given project
  - manage an on-site commercial project
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