
Newfoundland and Labrador Curriculum Standard Plan of Training Cabinetmaker



Government of Newfoundland and Labrador
Department of Immigration, Population Growth and Skills
Apprenticeship and Trades Certification Division

March 2022

PLAN OF TRAINING

Cabinetmaker

April 2022



**Government of Newfoundland and Labrador
Department of Immigration, Population Growth and Skills
Apprenticeship and Trades Certification Division**

Approved by:

A handwritten signature in cursive script that reads "Hannah Johnson".

Chairperson, Provincial Apprenticeship and Certification Board

Date: April 16, 2022

Preface

This curriculum standard is aligned with the 2021 edition of the Red Seal Occupational Standard for the Cabinetmaker trade. It describes the curriculum content for the Cabinetmaker apprenticeship training program.

Acknowledgements

The Provincial Trade Advisory Committee (PTAC), industry representatives, instructors and apprenticeship staff provided valuable input to the development of this provincial plan of training. Without their dedication to quality apprenticeship training, this document could not have been produced.

We offer a sincere thank you.

Contact Information

Department of Immigration, Population Growth and Skills
Apprenticeship and Trades Certification Division
Tel: 709-729-2729
Toll Free: 1-877-771-3737
Email: app@gov.nl.ca
Web: <https://www.gov.nl.ca/atcd/>

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A. RSOS Comparison Chart

RSOS 2021 Tasks		2022 POT	
Task 1 – Maintains tools and equipment			
1.01	Maintains safe work environment.	TS1510	Occupational Health and Safety WHMIS
1.02	Uses personal protective equipment (PPE) and safety equipment.	TS1520	
Task 2 – Organizes Work			
2.01	Maintains hand, portable power and pneumatic tools and equipment.	AK1410	Hand Tools
		AK1400	Portable Power Tools
		AK1242	Common Stationary Equipment
2.02	Maintains stationary power tools.	AK1242	Common Stationary Equipment
		AK2350	Advanced Stationary Equipment
2.03	Maintains automated and computer numerical control (CNC) equipment	AK2360	Automated and CNC Equipment
2.04	Maintains finishing equipment.	AK1181	Basic Wood Finishing
Task 3 – Organizes Work			
3.01	Interprets prints and drawings	AK1151	Blueprint I – Basic
3.02	Plans project	AK1141	Introduction to Materials
3.03	Creates design	AK1161	Introduction to CAD
3.04	Performs layout of cabinets, furniture and architectural millwork	AK1171	Cabinet Fundamentals
Task 4 – Performs Routine Work Practices			
4.01	Handles materials, supplies and products	AK1171	Cabinet Fundamentals
4.02	Fabricates jigs and templates		
4.03	Builds prototypes	All Level 1 Core Curriculum Courses	
4.04	Dry fits components	AK1171	Cabinet Fundamentals
4.05	Selects hardware	AK1171	Cabinet Fundamentals
4.06	Selects adhesives and fasteners	AK1212	Fasteners and Adhesives
Task 5 – Uses Communication and Mentoring Techniques			
5.01	Uses communication techniques	All Core Curriculum Courses	
5.02	Uses mentoring techniques	AK2430	Workplace Mentoring
Task 6 – Machines Components Using Stationary and Portable Power Tools			
6.01	Breaks out solid wood	AK1141	Introduction to Materials
		AK1242	Common Stationary Equipment
		AK1171	Cabinet Fundamentals
6.02	Dresses solid wood	AK1141	Introduction to Materials
		AK1242	Common Stationary Equipment
6.03	Shapes solid wood	AK1141	Introduction to Materials

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RSOS 2021 Tasks		2022 POT	
		AK1400	Portable Power Tools
		AK2350	Advanced Stationary Equipment
		AK1171	Cabinet Fundamentals
6.04	Breaks out sheet materials	AK1141	Introduction to Materials
		AK1242	Common Stationary Equipment
		AK1171	Cabinet Fundamentals
6.05	Machines sheet materials	AK1141	Introduction to Materials
		AK1400	Portable Power Tools
		AK1242	Common Stationary Equipment
		AK1171	Cabinet Fundamentals
6.06	Machines joints	AK1252	Joint Fabrication and Assembly
6.07	Performs preliminary sanding	AK1242	Common Stationary Equipment
		AK1181	Basic Wood Finishing
Task 7 – Machines Components Using Automated and CNC Equipment			
7.01	Sets up automated and CNC equipment	AK2360	Automated and CNC Equipment
7.02	Operates automated and CNC equipment		
Task 8 – Creates Curved Components Using Wood and Composite Materials			
8.01	Builds forms	AK2340	Advanced Cabinet and Furniture Construction
8.02	Performs curved laminating	AK1191	Basic Lamination
		AK2320	Advanced Lamination
8.03	Steam-forms wood	AK1191	Basic Lamination
		AK2320	Advanced Lamination
		AK2340	Advanced Cabinet and Furniture Construction
Task 9 – Laminates Wood and Composite Materials			
9.01	Arranges materials for laminating	AK2320	Advance Lamination
9.02	Applies adhesive for laminating		
9.03	Clamps pieces together		
Task 10 – Applies Veneers			
10.01	Selects Veneer	AK1141	Introduction to Materials
10.02	Prepares veneer and substrate		

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RSOS 2021 Tasks		2022 POT	
10.03	Adheres veneers to substrates	AK1212	Fasteners and Adhesives
		AK1191	Basic Lamination
		AK2340	Advanced Cabinet and Furniture Construction
10.04	Performs final clean-up of veneered panels		
Task 11 – Applies Laminate sheets			
11.01	Selects laminate sheets	AK1191	Basic Lamination
11.02	Prepares laminate sheets and substrate		
11.03	Adheres laminate sheets to substrate	AK1212	Fasteners and Adhesives
11.04	Performs final clean-up of laminated sheets	AK1191	Basic Lamination
Task 12 – Assembles Cabinets and Furniture			
12.01	Assembles cabinet components	AK1171 AK2340	Cabinet Fundamentals Advanced Cabinet and Furniture Construction
12.02	Assembles furniture components.		
12.03	Combines cabinet and furniture components into final assemblies		
Task 13 – Assembles Architectural Millwork Products			
13.01	Assembles architectural millwork components in the shop	AK2410	Architectural Millwork
13.02	Assembles architectural fixtures in the shop		
Task 14 – Prepares Surface for Finishing			
14.01	Repairs imperfections	AK1181	Basic Wood Finishing
14.02	Prepares parts for finishing	AK2300	Intermediate Wood Finishing
14.03	Performs final sanding of surfaces	AK2380	Advanced Wood Finishing
Task 15 – Finishes Wood Products			
15.01	Prepares finishing materials	AK1181	Basic Wood Finishing
15.02	Applies finishing material manually	AK2300	Intermediate Wood Finishing
15.03	Sprays on finishing material	AK2380	Advanced Wood Finishing
Task 16 – Modifies Products to Site Conditions			

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RSOS 2021 Tasks		2022 POT	
16.01	Cuts access holes on site	AK2310	Installation Procedures
16.02	Scribes products to fit on site		
Task 17 – Installs Cabinets and Countertops			
17.01	Performs final on-site assembly and fastening of cabinets and countertops	AK2310	Installation Procedures
17.02	Finalizes installation of cabinets and countertops		
Task 18 – Installs Architectural Millwork Products and Mouldings			
18.01	Performs final on site assembly and fastening of architectural millwork products	AK2410	Architectural Millwork
18.02	Installs Moldings		
18.03	Finalizes installation of architectural millwork products and mouldings		
Task 19 – Builds Stairs and Balustrades			
19.01	Lays out stair and balustrade components	AK1311	Stairs
19.02	Machines stair and balustrade components		
19.03	Assembles stairs and balustrades		
19.04	Installs stairs and balustrades		
Task 20 – Works With Solid Surface Material and custom countertops			
20.01	Breaks out materials	AK2370	Specialty and Solid Surface Materials
20.02	Fabricates solid surface material		
20.03	Installs solid surface material		
Task 21 – Creates Decorative Woodwork			
21.01	Performs marquetry	These sub-tasks are not common core, and are not covered in the NL curriculum	
21.02	Performs carving		
21.03	Performs woodturning	AK2410	Architectural Millwork

RSOS 2021 Tasks		2022 POT	
Task 22 – Restores Woodwork			
22.01	Repairs woodwork for restoration purposes	AK2420	Woodwork Restoration
22.02	Refinishes woodwork		

B. Program Structure

For each and every course, a formal assessment is required for which 70% is the pass mark. A mark of 70% must be attained in both the theory examination and the practical project assignment, where applicable as documented on an official transcript.

The order of course delivery within each level can be determined by the educational agency, as long as pre-requisite conditions are satisfied.

Upon completion of an entry level program, individuals may be required to complete other certifications (employer or job site specific) in order to gain employment.

Level 1				
Course No.		Course Name	Hours	Pre-Requisite(s)
AK1410		Hand Tools	12	None
AK1400		Portable Power Tools	18	AK1410
AK1242		Common Stationary Equipment	24	AK1400
AK1141		Introduction to Materials	24	None
AK1151		Prints and Drawings	24	None
AK1161		Introduction to CAD	30	AK1151
AK1171		Cabinet Fundamentals	60	AK1151
AK1212		Fasteners and Adhesives	24	AK1410
AK1252		Joint Fabrication and Assembly	42	AK1242
AK1181		Basic Wood Finishing	24	AK1400
AK1191		Basic Lamination	36	AK1252
AM1121		Cabinetmaker Math Fundamentals	42	None
Total Hours			360	

Required Work Experience

Level 2				
Course No.	AACS No.	Course Name	Hours	Pre-Requisite(s)
AK2300	-	Intermediate Wood finishing	24	Level I
AK2310	-	Installation Procedures	36	Level I
AK2320	-	Advanced Lamination	36	Level I
AK2330	-	Computer Aided Design	36	Level I
AK2340	-	Advanced Cabinet and Furniture Construction	78	Level I
Total Hours			210	

Required Work Experience

Level 3				
Course No.	AACS No.	Course Name	Hours	Pre-Requisite(s)
AK2350	-	Advanced Stationary Equipment	36	Level 2
AK2360	-	Automated and CNC Equipment	36	Level 2
AK2370	-	Specialty and Solid Surface Materials	30	Level 2
AK1311	-	Stairs	78	Level 2
AK2380	-	Advanced Wood Finishing	30	Level 2
Total Hours			210	

Required Work Experience

Level 4				
Course No.	AACS No.	Course Name	Hours	Pre-Requisite(s)
AK2400		Specialty Materials	42	Level 3
AK1321		Industry Codes and Practices	30	Level 3
AK2410		Architectural Millwork	60	Level 3
AK2420		Woodwork Restoration	12	Level 3
AK2430		Workplace Mentoring	6	Level 3
AK2440		Program Review	30	Level 3
Total Hours			180	

Required Work Experience

Total Course Credit Hours	1560
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Level 1

AK1410 Hand Tools

Learning Outcomes:

- Demonstrate the use of hand tools.

Duration: 12 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Identify the main types of hand tools and describe their applications, accessories, care and use.
 - i. measuring
 - ii. layout
 - iii. alignment
 - iv. levels
 - v. sanders
 - vi. edge-cutters (hand planes & chisels)
 - vii. saws
 - viii. clamps
 - ix. sharpeners
2. Describe the procedures used to sharpen hand tools.

Practical Requirements:

1. Maintain hand tools and demonstrate sharpening procedures.

AK1400 Portable Power Tools

Learning Outcomes:

- Demonstrate an understanding of the operation of portable power tools.

Duration: 18 Hours

Pre-Requisite(s): AK1410

Objectives and Content:

1. Identify the types of portable power and pneumatic tools and describe their applications, safety accessories, care and use.
 - i. saws
 - circular
 - jig
 - mitre
 - ii. drills
 - iii. planer
 - iv. sanders
 - belt
 - finish (random orbital)
 - v. routers and trimmers
 - vi. nailers and staplers
 - pneumatic
 - electric
 - vii. portable compressors
 - viii. joiners
 - biscuit
 - domino
 - ix. heat guns
2. Describe the importance of matching accessories for portable power tools to their intended use.
 - i. blades
 - ii. fences
 - iii. knives
 - iv. template guides
 - v. cutters
 - vi. depth gauges
 - vii. bits
3. Describe the procedures to perform common tasks with portable power tools.

- i. edge profiles
- ii. flush trimming
- iii. sanding

Practical Requirements:

1. Set up and use a portable power tool.

AK1242 Common Stationary Equipment

Learning Outcomes:

- Demonstrate an understanding of the operation of common stationary equipment.

Duration: 24 Hours

Pre-Requisite(s): AK1400

Objectives and Content:

1. Identify the types of common stationary equipment and describe their applications, safety accessories, care and use.
 - i. saws
 - table
 - band
 - radial-arm
 - panel (vertical and sliding)
 - ii. edge-bander
 - iii. sanders
 - disk
 - stroke
 - edge
 - spindle
 - drum/wide belt
 - iv. mortisers
 - oscillating slot
 - chisel
 - v. drill presses
 - vi. planers
 - vii. jointers
 - viii. shapers
 - ix. hinge borers
 - x. bench grinders
 - xi. dust collectors
 - xii. CNC machining centre
 - xiii. compressor and air dryer
2. Describe the importance of matching accessories for common stationary equipment to their intended use.
 - i. blades

- ii. knives
 - iii. cutters
 - iv. bits
 - v. jigs
3. Describe the procedures to perform common tasks with stationary equipment.
- i. Break out lumber
 - ii. Dress lumber

Practical Requirements:

- 1. Set-up and operate a stationary tool.
- 2. Change a blade, bit or cutter.

AK1141 Introduction to Materials

Learning Outcomes:

- Demonstrate knowledge of the materials used in cabinetmaking.

Duration: 24 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Identify and classify the different types of solid wood common to the Cabinetmaker trade.
 - i. hardwoods (deciduous)
 - birch
 - maple
 - oak
 - walnut
 - mahogany
 - cherry
 - poplar
 - ii. softwoods (coniferous)
 - basswood
 - pine
 - cedar
 - spruce
2. Describe the different common methods of producing lumber.
 - i. plain sawn/flat grained
 - ii. quarter sawn/edge grained
 - iii. rift sawn/rift grained
3. Describe the relative commercial values of lumber.
 - i. costs
 - ii. types
 - iii. sizes
 - iv. waste factor
4. Identify properties of common wood species.
 - i. density
 - ii. color
 - iii. odor
 - iv. structure

- v. growth patterns
 - vi. strength
 - vii. aesthetics
 - viii. bending qualities
 - ix. effects of light regarding discoloration
5. Identify types of wood grains.
- i. straight
 - ii. irregular
 - iii. curly
 - iv. spiral
 - v. interlocked
 - vi. open and closed
6. Identify common softwood and hardwood grades.
7. Describe common defects and flaws related to growth and machining.
- i. shakes
 - ii. pitch pockets
 - iii. knots
 - iv. stress
 - v. birds eyes
 - vi. burls
 - vii. rot
8. Describe the nominal and actual dimensions of softwood and hardwood lumber.
9. Describe seasoning and storage processes.
- i. moisture content
 - ii. equilibrium moisture content
 - iii. relative humidity
10. Describe drying methods.
- i. air
 - ii. kiln (types of kilns)
11. Describe flaws and defects related to improper drying and storage.
- i. checks
 - ii. warpage
 - iii. honeycomb
 - iv. stains
 - stickers
 - molds
12. Describe the procedures to measure hardwood lumber.

- i. board feet
 - ii. length and thickness
13. Identify manufactured wood products.
 - i. plywood (interior, exterior and specialty)
 - ii. other core materials
 - veneer
 - lumber
 - particle board
 - fibre-board
 - combination
 - balanced construction (laminates, veneers, etc.)
14. Describe the advantages of core-type woods over solid woods.
15. Describe the manufacturing methods of face veneers.
 - i. rotary
 - ii. flat sliced
16. Describe the advantages and disadvantages of various composite core materials.
 - i. particle-board
 - ii. fibre-board densities
17. Describe how different moisture-conditions affect composite core materials and storage.
18. Describe the types and uses of plastic laminate sheet material.
 - i. grades
 - ii. sizes
 - iii. brands
 - iv. properties
19. Describe standard types of molding.

Practical Requirements:

None

AK1151 Prints and Drawings

Learning Outcomes:

- Demonstrate knowledge of construction drawings, specifications, regulations and codes.

Duration: 24 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Identify the different types of drawings and describe their use.
 - i. architectural
 - elevation
 - floor
 - section
 - detail
 - three dimensional
 - isometric
 - oblique
 - ii. shop drawings / work orders
 - iii. manufacturers supplied drawings
2. Identify architectural specifications and describe their purpose and use.
3. Identify construction regulations, codes and standards.
 - i. National Building Code
 - ii. Newfoundland Labrador Construction Safety Association
 - iii. Architectural Woodwork Manufacturers Association of Canada
 - iv. Buildings Accessibility Act and Regulations
4. Describe the alphabet of lines.
 - i. object
 - ii. broken
 - iii. extension
 - iv. dimension
 - v. centre
 - vi. leader
 - vii. break
 - viii. cutting plane
5. Identify and describe blueprint symbols and abbreviations.

- i. wall symbols
 - ii. exterior
 - iii. interior
 - iv. mechanical
 - v. masonry
 - vi. scale
6. Identify and describe information on construction drawings.
- i. lines
 - ii. symbols
 - iii. dimensions
 - iv. elevations
 - v. plan views
 - vi. abbreviations
 - vii. window/door schedules
 - viii. section views
 - ix. finish schedules
7. Explain the purpose of sketching.
- i. communication
 - ii. visualization
 - iii. explaining details
8. Describe freehand sketching techniques.
- i. lines
 - ii. proportion
 - iii. circles
 - iv. irregular shapes

Practical Requirements:

1. Develop a freehand sketch.
2. Produce a full scaled layout.

AK1161 Introduction to CAD

Learning Outcomes:

- Demonstrate knowledge of Computer Aided Design (CAD) to produce basic shop drawings.

Duration: 30 Hours

Pre-Requisite(s): AK1151

Objectives and Content:

1. Describe the procedures to use computer assisted drawing software.
 - i. room layout
 - ii. material selection
 - iii. cabinet placement
 - iv. parameter setup
 - v. view selection
 - vi. saving and printing
2. Identify the types of CAD software.

Practical Requirements:

1. Design an efficient kitchen-cabinet layout.

AK1171 Cabinet Fundamentals

Learning Outcomes:

- Demonstrate the ability to identify and install hardware used in basic cabinets.
- Demonstrate the ability to layout and assemble basic cabinets.

Duration: 60 Hours

Pre-Requisite(s): AK1151

Objectives and Content:

1. Identify common types of hinges and describe their characteristics, applications and procedures to install.
 - i. butt
 - ii. surface mounted
 - iii. concealed
 - iv. piano
2. Identify the types of handles, pulls, knobs and accessories and describe their characteristics, applications and procedures to install.
3. Identify the types of catches, locks and latches and describe their characteristics, applications, location and procedures to install.
4. Identify types of hardware used for sliding cabinet doors and drawers and describe their characteristics, applications and procedures to install.
 - i. shop made (wood on wood)
 - ii. manufactured
 - metal
 - nylon
 - iii. pocket
 - iv. tambour
5. Identify types of hardware for adjustable/non-adjustable shelves and describe their characteristics, applications, spacing and procedures to install.
 - i. standards
 - ii. pins
 - iii. brackets
 - iv. cleats
6. Identify types of special purpose hardware and describe their characteristics, applications, location and procedures to install.

- i. tray-lift
 - ii. turning shelf
 - iii. lid stays
 - iv. grommets (cable holes)
 - v. blind corners
7. Describe jigs and templates used for location and installation of hardware.
8. Identify types of ready to assemble (RTA) fittings and describe their characteristics, applications, location and procedures to install.
9. Describe the 32mm system.
10. Describe the procedures used to fabricate framed and frameless casework.
 - i. shop drawings
 - ii. cutting lists/optimizing
 - iii. planning
 - sectional
 - knockdown
 - shop/site assembled
 - iv. selection of materials
 - solid stock
 - sheet materials
 - allowance for waste
 - v. sanding and pre-finishing (before final assembly)
 - vi. pre-assembly
 - vii. assembly
11. Describe cabinet components.
 - i. gables
 - ii. tops
 - iii. bottoms
 - iv. doors
 - panel
 - slab
 - tambour
 - v. drawers
12. Describe the procedures used to fabricate and construct basic cabinet doors.
 - i. planning
 - sizes
 - clearances
 - ii. selection of materials
 - iii. construction
 - iv. installation and adjustment of hardware

13. Describe the procedures used to fabricate and construct basic cabinet drawers.
 - i. planning
 - ii. selection of materials
 - iii. construction
 - iv. installation and adjustment of hardware

Practical Requirements:

1. Fabricate a case with a door and a drawer.
 - i. produce cutting list
 - ii. optimize materials
 - iii. install hardware

AK1212 Fasteners and Adhesives

Learning Outcomes:

- Demonstrate the ability to select and use fasteners and adhesives.

Duration: 24 Hours

Pre-Requisite(s): AK1410

Objectives and Content:

1. Identify the main types of fasteners and describe their characteristics, applications and procedures to install.
 - i. nails
 - ii. screws
 - iii. biscuits
 - iv. dowels
 - v. staples
 - vi. wall inserts
 - vii. RTA hardware
 - viii. tight joint fasteners
 - ix. angle brackets
2. Identify the coatings used on fasteners and describe their characteristics and applications.
3. Identify the main types of adhesives and describe their characteristics, applications and procedures for use and storage.
 - i. hide glue
 - ii. casein glue
 - iii. standard and cross-linking polyvinyl resins
 - iv. urea-resin
 - v. resorcinol
 - vi. epoxy
 - vii. contact cements
 - viii. hot-melts
4. Identify and describe the most suitable adhesive for specific applications.
 - i. shelf-life,
 - ii. pot-life
 - iii. assembly times
 - iv. moisture conditions,
 - v. temperatures

- vi. undesirable staining of materials
- vii. coloring of glue
- viii. type of material to be glued

Requirements:

1. Select and install a fastener for a specified task.
2. Select and apply an adhesive for a specified task.

AK1252 Joint Fabrication and Assembly

Learning Outcomes:

- Demonstrate the ability to fabricate and assemble joints.

Duration: 42 Hours

Pre-Requisite(s): AK1242

Objectives and Content:

1. Identify types of abrasives, their characteristics and applications.
 - i. garnet
 - ii. aluminum oxide
 - iii. silicon carbide
2. Identify and describe the different forces affecting joints.
 - i. shear
 - ii. tensile
 - iii. compression
3. Identify the types of woodworking joints and describe their characteristics, applications and the procedures to fabricate and assemble.
 - i. butt
 - ii. mitre
 - iii. lap joints
 - iv. dado
 - v. rabbet joint
 - vi. dowel joint
 - vii. tongue and groove joints
 - viii. spline joints
 - ix. mortise and tenon joints
 - x. dovetail joints
 - xi. biscuit or plate joint
 - xii. coped joint
 - xiii. finger
 - xiv. scarf
 - xv. pocket screwed joints

Practical Requirements

1. Layout, fabricate, and assemble a joint from solid wood.

2. Using sanding techniques, prepare either solid wood or sheet material for finishing.

AK1181 Basic Wood Finishing

Learning Outcomes:

- Demonstrate knowledge of finishing products and wood preparation.
- Demonstrate the ability to apply finishing products.

Duration: 24 Hours

Pre-Requisite(s): AK1400

Objectives and Content:

1. Describe pre-finishing procedures.
 - i. glue removal
 - ii. surface repairs
 - iii. final sanding & inspection
 - iv. filling
2. Identify the types of finishing products and describe their characteristics, applications and procedures for use.
 - i. lacquers
 - ii. varnishes
 - iii. oils
 - iv. water based finishes
3. Identify compatible solvents and thinners for finishing products.
4. Describe methods of applying finishing coats.
 - i. spraying
 - ii. brushing
5. Identify the types of spray equipment and describe their applications, adjustments, care and use.
 - i. airless and air assisted airless
 - ii. high volume - low pressure
 - iii. spray booths
6. Describe hazards posed by the use, storage and disposal of finishing products and harmful materials.
 - i. oily rags
 - ii. lighting and ventilation systems
 - iii. solvents and vapors
 - skin and eye contact

- respiratory protection

Practical Requirements:

1. Prepare a section of solid wood or sheet material for finishing.
2. Apply a top coat using spray equipment.

AK1191 Basic Lamination

Learning Outcomes:

- Demonstrate the ability to identify different types of laminates.
- Demonstrate the ability to perform laminating procedures.

Duration: 36 Hours

Pre-Requisite(s): AK1252

Objectives and Content:

1. Identify types of laminating and describe their characteristics and applications.
 - i. wood
 - ii. plastic
2. Describe gluing, assembling and clamping systems.
 - i. growth rings and grain direction
 - ii. special milling of components
3. Describe the procedures used to perform a straight lamination using solid wood.
 - i. grain direction & growth rings
 - ii. clamping methods
4. Describe the procedures to apply plastic laminates to straight surfaces.
5. Describe sizing and dressing of a solid wood lamination. glued up solid wood units.

Practical Requirements:

1. Prepare, apply, trim and finish plastic laminate on a straight surface.
2. Prepare, laminate and dress solid wood.

AM1121 Cabinetmaker Math Fundamentals

Learning Outcomes:

- Demonstrate knowledge of mathematical concepts in the performance of trade practices.
- Demonstrate knowledge of mathematics as a critical element of the trade environment.
- Solve mathematical word problems.
- Demonstrate knowledge of mathematical principles for the purposes of problem solving, job and materials estimation, measurement, calculation, system conversion, diagram interpretation and scale conversions, formulae calculations, and geometric applications.

Duration: 42 Hours

Pre-Requisite(s): None (direct entry apprentices only)

Objectives and Content:

The instructor is required to use trade specific examples to reinforce the course objectives.

1. Describe percent/decimal/fraction conversions and comparisons in trade specific situations.
2. Describe ratios and proportions as they relate to trade specific problems.
3. Describe the use of the Imperial and Metric measurement systems in trade specific applications.
4. Describe Imperial and Metric conversions in trade specific situations.
 - i. convert between imperial and metric measurements
 - ii. convert to another unit within the same measurement system
5. Describe how to manipulate formulas using cross multiplication, dividing throughout, elimination, and substitution to solve trade specific problems.
 - i. right angle triangles
 - ii. area
 - iii. volume
 - iv. perimeter
 - v. density
6. Identify calculations involving geometry that are relevant to the trade.

- i. angle calculations
 - ii. circle calculations
7. Identify math processes used to complete administrative trade tasks.
- i. material estimation
 - ii. material costing
 - iii. time & labour estimates
 - iv. taxes & surcharges
 - v. markup & projecting revenue

Practical Requirements:

- 1. To emphasize or further develop specific knowledge objectives, students will be asked to complete practical demonstrations which confirm proper application of mathematical theory to job skills.

Note: This course is **non-transferable** to other trades programs, and **not eligible for prior learning assessment**. Students completing training in this trade program are required to complete this math course. Apprentice transfers under Provincial / Territorial Mobility agreements may be exempt from this requirement.

Level 2

AK2300 Intermediate Wood Finishing

Learning Outcomes:

- Demonstrate knowledge of finishing products and wood preparation.
- Demonstrate the ability to apply finishing products.

Duration: 24 Hours

Pre-Requisite(s): Level 1

Objectives and Content:

1. Identify the types of stains and describe their characteristics, applications and procedures for use.
 - i. water
 - ii. alcohol
 - iii. solvent
 - iv. oil
2. Describe staining procedures to achieve desired color.
3. Identify the types of fillers and describe their characteristics, applications and procedures for use.
 - i. wood putty
 - ii. wax
4. Describe the procedures to seal and wash coat.
5. Describe common finishing problems and their solutions.
 - i. fish eye
 - ii. orange peel
 - iii. runs
 - iv. overspray

Practical Requirements:

1. Apply stain and topcoat to wood.

AK2310 Installation Procedures

Learning Outcomes:

- Demonstrate the ability to install specific shop casework to specifications and drawings.

Duration: 36 Hours

Pre-Requisite(s): Level 1

Objectives and Content:

1. Interpret drawings and specifications to identify the placement of casework.
2. Describe how studs or blocking can be found in framed walls.
3. Describe the methods of securing materials.
 - i. adhesives
 - ii. screws and bolts
 - iii. hollow and solid wall fasteners
4. Describe procedures to install countertops.
5. Describe problems associated with installations.
 - i. minor warpages
 - ii. imperfect walls and floors
 - iii. utilities access
 - iv. humidity and temperature
6. Describe the procedures to install casework.
 - i. sequence of assembly
 - ii. leveling
 - iii. plumbing
 - iv. shimming
 - v. scribing
 - vi. temporary protection after installation
 - vii. housekeeping duties
7. Describe final adjustment procedures following installation of casework.
 - i. doors
 - ii. drawers

Practical Requirements:

1. Install casework according to specifications and drawings.

AK2320 Advanced Lamination

Learning Outcomes:

- Demonstrate the ability to identify different types of laminates.
- Demonstrate the ability to perform laminating procedures.

Duration: 36 Hours

Pre-Requisite(s): Level 1

Objectives and Content:

1. Identify specialty plastic laminates and describe their characteristics and applications.
2. Identify tools used during the bending process.
 - i. edge clamps
 - ii. band clamps
3. Identify types of edge treatments.
 - i. solid wood
 - ii. veneer
 - iii. laminate
 - iv. PVC
 - v. T-Molding
4. Describe the procedures to build one and two-piece forms.
5. Describe the procedures used to perform a curved lamination using solid wood.
 - i. grain direction & growth rings
 - ii. clamping methods
6. Describe the procedures to apply plastic laminates to curved surfaces.
7. Describe the procedures to apply edge treatments.
8. Describe the procedures to butt join plastic laminates using hand and power tools.
9. Describe the procedures for dry and steam bending solid woods.
 - i. wood species
 - ii. material
 - iii. grains and radii

- iv. lamination of layers

Practical Requirements:

1. Prepare, apply, trim and finish plastic laminate on a curved surface.
2. Prepare, laminate and dress solid wood in a curved form.

AK2330 Computer Aided Design

Learning Outcomes:

- Demonstrate knowledge of computer aided design.

Duration: 36 Hours

Pre-Requisite(s): Level 1

Objectives and Content:

1. Describe the use of computer software to support CAD activities.
 - i. cut lists
 - ii. optimization
 - iii. estimating
 - iv. shop drawings
2. Identify common CAD software and describe their uses.
 - i. machine control
 - ii. drawing production
3. Describe the procedures to use CAD software to produce drawings.
 - i. orthographic
 - ii. three dimensional
 - iii. cross section
 - iv. detailed sections
4. Describe the procedures to modify parameters in CAD software.

Practical Requirements:

1. Use CAD software to produce a shop drawing.

AK2340 Advanced Cabinet and Furniture Construction

Learning Outcomes:

- Demonstrate knowledge of cabinet and furniture design and layout.
- Demonstrate the ability to design and construct cabinets and furniture.

Duration: 78 Hours

Pre-Requisite(s): Level 1

Objectives and Content:

1. Describe principles and elements relating to cabinetry.
 - i. harmony
 - ii. rhythm
 - iii. proportion
 - iv. balance and emphasis
2. Describe the color wheel and its applications.
3. Describe accepted industry practices in heights, widths and depths.
 - i. service and work counters
 - ii. tables, desks, vanities, chairs, benches, visual boards
 - iii. knee and toe spaces
 - iv. traffic flow
 - v. golden mean rectangle (geometric ratio & proportion)
4. Describe the use of specifications and drawings and their applications relative to customized cabinets, furniture units and other fixtures.
5. Describe industry practices.
 - i. sequences of work
 - ii. layouts,
 - iii. cutting lists
 - iv. breakout of material
 - v. machining and assembly
 - vi. shipping and installation
6. Describe production procedures based on availability of equipment.
7. Describe construction procedures for furniture and casework.
 - i. legs and rails
 - ii. sloped and contoured casework

- iii. doors
 - iv. drawers
 - v. hardware
 - vi. joints
8. Describe the standard types of molding.

Practical Requirements:

1. Layout and build a furniture component to specifications.

Level 3

AK2350 Advanced Stationary Equipment

Learning Outcomes:

- Demonstrate the ability to set up and operate advanced stationary equipment.

Duration: 36 Hours

Pre-Requisite(s): Level 2

Objectives and Content:

1. Identify stationary equipment and describe their applications, safety accessories, care and use.
 - i. straight line rip saws
 - ii. clamping systems
 - case clamp
 - clamp carrier
 - hot/cold press
 - iii. molders
 - iv. shapers
 - v. tenoners
 - single end
 - double end
 - vi. line boring machine

2. Describe the importance of matching accessories for stationary equipment-to their intended use.
 - i. machine tooling
 - ii. guides
 - iii. guards
 - iv. power feed attachments

3. Describe the requirements for maintenance and log keeping.

Practical Requirements:

1. Set-up and operate stationary equipment.

AK2360 Automated and CNC Equipment

Learning Outcomes:

- demonstrate knowledge of automated equipment, and their characteristics and applications.
- demonstrate knowledge of Computer Numerical Control (CNC) equipment, and their characteristics and applications.
- demonstrate knowledge of procedures to set up automated equipment.
- demonstrate knowledge of procedures to operate CNC equipment.

Duration: 36 Hours

Pre-Requisite(s): Level 2

Objectives and Content:

1. Identify types of automated equipment, and describe their characteristics and applications.
 - i. spray lines
 - ii. material handling
 - iii. veneer presses
2. Identify types of CNC equipment, and describe their characteristics and applications.
 - i. machining centres
 - ii. beam saws
3. Identify tooling used to operate automated equipment, and describe their characteristics and application.
4. Identify tooling used to operate CNC equipment, and describe their characteristics and applications.
5. Describe the integration of CAD and computer aided manufacturing (CAM) software.
6. Describe basic CNC programming.
7. Describe procedures to set up, adjust, calibrate, and operate automated equipment.
8. Describe procedures to set up, adjust, calibrate, and operate CNC equipment .

Practical Requirements:

1. Setup, adjust, calibrate and operate automated equipment.
2. Setup, adjust, calibrate and operate CNC equipment.

AK2370 Specialty and Solid Surface Materials

Learning Outcomes:

- Demonstrate knowledge of solid surface material, their characteristics and applications.
- Demonstrate knowledge of procedures to fabricate solid surface material.

Duration: 30 Hours

Pre-Requisite(s): Level 2

Objectives and Content:

1. Identify solid surface materials, and describe their dimensions, characteristics and applications.
2. Identify tools and equipment used to break out and fabricate materials, and describe their procedures for use.
3. Identify solid surface material adhesives, and describe their characteristics and applications.
4. Identify and describe solid surface accessories, their characteristics and applications.
 - i. sinks
 - ii. splashes
5. Describe thermal forming processes.
6. Describe procedures to break out and fabricate solid surface materials.
7. Describe solid surface material polishing methods.
8. Identify veneers and describe their characteristics and applications.
 - i. species
 - ii. cuts
 - iii. grades
9. Describe matching veneer patterns.
 - i. book
 - ii. slip
 - iii. starburst
 - iv. diamond

10. Describe veneer storage techniques and characteristics.
11. Describe the advantages and disadvantages of various composite core materials.
 - i. particle-board
 - ii. fibre-board

Practical Requirements:

1. Fabricate and polish a solid surface component that contains a joint and profiled edge.

AK1311 Stairs

Learning Outcomes:

- Demonstrate knowledge of stairs and balustrades, and their characteristics and applications.
- Demonstrate knowledge of procedures to lay out stair and balustrade components.
- Demonstrate knowledge of procedures to machine stair and balustrade components.
- Demonstrate knowledge of procedures to assemble stairs and balustrades.
- Demonstrate knowledge of procedures to install stairs and balustrades.

Duration: 78 Hours

Pre-Requisite(s): Level 2

Objectives and Content:

1. Identify stair styles, and describe their characteristics and applications.
 - i. straight
 - ii. winders
 - iii. spiral
 - iv. curved
2. Identify stair components, and describe their characteristics and applications.
 - i. treads
 - ii. risers
 - iii. posts
 - iv. stringers
 - v. landings
 - vi. newel posts
 - vii. hand rails
 - viii. baluster
 - ix. shoe
3. Identify adhesives, fasteners, shims wedges, and describe their characteristics and applications.
4. Identify building code requirements in stair construction.
5. Describe site accessibility and condition considerations.

6. Describe the sequence of assembly in shop and on-site.
7. Describe mathematical calculations in stair assembly.
 - i. rise/run ratio
 - ii. radius
 - iii. headroom
 - iv. spacing of balusters
8. Identify tools and equipment used in stair and balustrade construction and describe their characteristics and procedures for use.
 - i. laying out
 - ii. machining
 - iii. assembling and installing
9. Identify clamping techniques, and describe their characteristics and applications.
10. Identify machining techniques, and describe their characteristics and applications.
11. Identify stair joinery techniques, and describe their characteristics and applications.
12. Identify stair assembly techniques, and describe their characteristics and applications.
13. Describe procedures to lay out, fabricate, and install stair and balustrade components.
14. Identify prototypes, and describe their characteristics and applications and construction procedures.
 - i. tools and equipment
 - ii. materials

Practical Requirements:

1. Calculate stair dimensions.
2. Estimate materials.
3. Design, construct and install a stair system.

AK2380 Advanced Wood Finishing

Learning Outcomes:

- Demonstrate knowledge of finishing products and wood preparation.
- Demonstrate the ability to apply finishing products using proper techniques.

Duration: 30 Hours

Pre-Requisite(s): Level 2

Objectives and Content:

1. Identify the types of specialty finishes and describe their characteristics, applications and procedures for use.
 - i. coloured laquers
 - ii. paints
 - iii. glazings
2. Describe procedures to achieve desired finish.

Practical Requirements:

1. Apply a specialty finish.

Level 4

AK2400 Specialty Materials

Learning Outcomes:

- Demonstrate knowledge of veneers and solid surfaces materials.

Duration: 42 Hours

Pre-Requisite(s): Level 3

Objectives and Content:

1. Identify tools and equipment used to apply adhesives and adhere veneers to substrates, and describe their procedures for use.
 - i. vacuum presses
 - ii. manual presses
 - iii. hydraulic presses
2. Identify tools and equipment used to perform final cleanup of veneered panels, and describe their procedures for use.
3. Describe procedures for edge treatment of substrates.
4. Describe procedures to adhere veneers to substrates.
5. Describe procedures for matching and joining veneers.
6. Describe procedures to perform trimming and final cleanup of veneered panels.
7. Identify types of glass and describe their properties and use.
 - i. float
 - ii. tempered
 - iii. laminated
 - iv. wired
8. Describe installation requirements for glass and mirrors.
 - i. setting and spacing blocks
 - ii. stops and special tracks
 - iii. hardware
9. Describe the use of specialty metals and their procedures for application.
 - i. brass

- ii. aluminum
10. Describe extruded mouldings, their types, applications and procedures for installation.
- i. vinyl
 - ii. aluminum

Practical Requirements:

- 1. Prepare and apply a veneer pattern to a substrate.

AK1321 Industry Codes and Practices

Learning Outcomes:

- Demonstrate the ability to identify the roles of other construction trades.

Duration: 30 Hours

Pre-Requisite(s): Level 3

Objectives and Content:

1. Identify government and industry bodies which set trade standards.
 - i. National Research Council (NRC)
 - ii. Architectural Woodwork Institute (AWI)
 - iii. Architectural Woodwork Manufacturers Association of Canada (AWMAC)
2. Identify and describe the roles and relationships of trade stakeholders.
 - i. architects
 - ii. construction associations
 - iii. sub and general contractors
 - iv. clients
3. Describe Quality Control systems.
4. Describe tools to sequence project activities.
 - i. critical path
 - ii. scheduling
5. Describe the procedures to follow for changing design and specifications of work in progress.

Practical Requirements:

None

AK2410 Architectural Millwork

Learning Outcomes:

- Demonstrate knowledge of cabinet and furniture design and layout.
- Demonstrate the ability to design and construct cabinets and furniture.

Duration: 60 Hours

Pre-Requisite(s): Level 3

Objectives and Content:

1. Describe methods of form construction using various materials and fasteners.
2. Describe architectural woodworking, its application and procedures for construction.
 - i. paneling
 - ii. door and window frames
 - iii. store and office fixtures
 - iv. columns
3. Describe the various joints for pre-assembled frame and panel construction.
4. Describe the procedures to produce millwork.
 - i. preparation and layout
 - ii. selection of hardware
 - iii. fabrication and installation
5. Identify wood turning practices.
 - i. select stock to avoid defects
 - ii. remove excess material prior to mounting
 - iii. mount stock on lathe
 - iv. select correct tools and equipment for job
 - v. turn stock using tools and equipment
 - vi. check size of piece using caliper to verify measurements
 - vii. sand piece at slow speed to prepare for finish

Practical Requirements:

1. Layout and build an architectural woodwork component to specifications.

AK2420 Woodwork Restoration

Learning Outcomes:

- Demonstrate knowledge of procedures to repair woodwork for restoration.
- Demonstrate knowledge of procedures to refinish woodwork.

Duration: 12 Hours

Pre-Requisite(s): Level 3

Objectives and Content:

1. Identify tools and equipment used to repair and refinish woodwork for restoration, and describe their procedures for use.
2. Identify furniture styles, and describe their characteristics and applications.
3. Identify historical hardware.
4. Describe procedures to repair woodwork for restoration.
5. Describe methods for furniture disassembly and assembly.
6. Describe modern and historic procedures for restoration.
7. Identify strippers and describe their characteristics and applications.
8. Identify new and old finishes, and describe their characteristics and applications.
9. Describe historical finishing techniques.
10. Describe procedures to refinish woodwork.

Practical Requirements:

None

AK2430 Workplace Mentoring

Learning Outcomes:

- Demonstrate knowledge of strategies for teaching workplace skills.

Duration: 6 Hours

Pre-requisites: Level 3

Theoretical Objectives:

1. Describe the importance of individual experience.
2. Describe the shared responsibilities for workplace learning.
3. Describe the importance of different types of skills in the workplace.
4. Identify different learning styles.
 - i. seeing it
 - ii. hearing it
 - iii. trying it
5. Identify different learning needs and strategies to meet learning needs.
 - i. learning disabilities
 - ii. learning preferences
 - iii. language proficiency
6. Identify strategies to assist in learning a skill.
 - i. understanding the principles of instruction
 - ii. developing coaching skills
 - iii. being mature and patient
 - iv. providing feedback
7. Identify different roles played by a workplace mentor.
8. Explain the importance of identifying the point of a lesson.
9. Identify how to choose a good time to present a lesson.
10. Explain the importance of linking the lessons.
11. Identify the components of the skill (context).

12. Describe considerations in setting up opportunities for skill practice.
13. Explain the importance of providing feedback.
14. Identify techniques for giving effective feedback.
15. Describe a skills assessment.
16. Identify methods of assessing progress.
17. Explain how to adjust a lesson to different situations.

Practical Objectives:

None

AK2440 Program Review

Learning Outcomes:

- Demonstrate knowledge of the Red Seal Occupational Standard (RSOS) and its relationship to the Interprovincial Examination.
- Demonstrate knowledge of overall comprehension of the trade in preparation for the Interprovincial Examination.

Duration: 30 Hours

Pre-Requisite(s): Level 3

Objectives and Content:

1. Define terminology associated with a Red Seal Occupational Standard (RSOS).
 - i. levels
 - ii. tasks
 - iii. sub-tasks
2. Explain how an RSOS is developed and the link it has with the Interprovincial Red Seal Examination.
 - i. development
 - ii. validation
 - iii. level and task weighting
 - iv. examination breakdown (pie-chart)
3. Identify Red Seal products and describe their use when preparing for the Interprovincial Red Seal Examination.
 - i. Red Seal website
 - ii. examination preparation guide
 - iii. sample questions
 - iv. examination counselling sheets
4. Explain the relationship between the RSOS and the provincial Plan of Training.
5. Review common occupational skills for the Cabinetmaker trade as identified in the RSOS.
 - i. safety-related functions
 - ii. tools and equipment
 - iii. work organization
 - iv. routine work practices
 - v. communication and mentoring

6. Review process to perform machining for the Cabinetmaker trade as identified in the RSOS.
 - i. machine components using stationary and portable power tools
 - ii. machine components using automated and CNC equipment
7. Review process to perform forming and laminating for the Cabinetmaker trade as identified in the RSOS.
 - i. create curved components using wood and composite materials
 - ii. laminate wood and composite materials
8. Review process to install veneers and laminates for the Cabinetmaker trade as identified in the RSOS.
 - i. apply veneers
 - ii. apply laminate sheets
9. Review process to perform shop assembly for the Cabinetmaker trade as identified in the RSOS.
 - i. assembly cabinets and furniture
 - ii. assemble architectural millwork products
10. Review process to perform finishing for the Cabinetmaker trade as identified in the RSOS.
 - i. prepare surfaces for finishing
 - ii. finish wood products
11. Review process to perform on-site assembly and installation for the Cabinetmaker trade as identified in the RSOS.
 - i. modify products to site conditions
 - ii. install cabinets and countertops
 - iii. install architectural millwork products and mouldings
12. Review process to perform specialized operations for the Cabinetmaker trade as identified in the RSOS.
 - i. build stairs and balustrades
 - ii. work with solid surface material and custom countertops
 - iii. create decorative woodwork
 - iv. restore woodwork

Practical Requirements:

None

C. Conditions Governing Apprenticeship Training

1.0 General

The following general conditions apply to all apprenticeship training programs approved by the Provincial Apprenticeship and Certification Board (PACB) in accordance with the **Apprenticeship Training and Certification Act (1999)**. If an occupation requires additional conditions, these will be noted in the specific Plan of Training for the occupation. In no case should there be a conflict between these conditions and the additional requirements specified in a certain Plan of Training. All references to Memorandum of Understanding will also apply to Letter of Understanding (LOU) agreements.

2.0 Entrance Requirements

2.1 Entry into the occupation as an apprentice requires:

Indenturing into the occupation by an employer who agrees to provide the appropriate training and work experiences as outlined in the Plan of Training.

2.2 Notwithstanding the above, each candidate must have successfully completed a high school program or equivalent, and in addition may be required to have completed certain academic subjects as specified in a particular Plan of Training. Mature students, at the discretion of the Director of Apprenticeship and Trades Certification, may be registered. A mature student is defined as one who has reached the age of 19 and who can demonstrate the ability and the interest to complete the requirements for certification.

2.3 At the discretion of the Director of Apprenticeship and Trades Certification, credit toward the apprenticeship program may be awarded to an apprentice for previous work experience and/or training as validated through prior learning assessment.

2.4 An Application for Apprenticeship form must be duly completed along with a Memorandum of Understanding as applicable to be indentured into an Apprenticeship. The Memorandum of Understanding must contain signatures of an authorized employer representative, the apprentice and an official representing the Provincial Apprenticeship and Certification Board to be valid.

2.5 A new Memorandum of Understanding must be completed for each change in an employer during the apprenticeship term.

3.0 Probationary Period

The probationary period for each Memorandum of Understanding will be six months or 900 employment credit hours. Within that period the memorandum may be terminated by either party upon giving the other party and the PACB one week notice in writing.

4.0 Termination of a Memorandum of Understanding

After the probationary period referred to in Section 3.0, the Memorandum of Understanding may be terminated by the PACB by mutual consent of the parties involved, or cancelled by the PACB for proper and sufficient cause in the opinion of the PACB, such as that stated in Section 14.

5.0 Apprenticeship Progression Schedule, Wage Rates and Advanced Training Criteria

Cabinetmaker - 7200 Hours			
Apprenticeship Level and Wages			
Level	Wage Rate	Requirements for Progression to Next Level	Next Level
1 st	60%	<ul style="list-style-type: none"> ▪ Completion of Level 1 training ▪ Registration as an apprentice ▪ Minimum 1800 hours of combined relevant work experience and training 	2 nd Year
2 nd	70%	<ul style="list-style-type: none"> ▪ Completion of Level 2 training ▪ Pass Level 2 exam* ▪ Minimum 3600 hours of combined relevant work experience and training 	3 rd Year
3 rd	80%	<ul style="list-style-type: none"> ▪ Completion of Level 3 training ▪ Pass Level 3 exam* ▪ Minimum 5400 hours of combined relevant work experience and training 	4 th Year
4 th	90%	<ul style="list-style-type: none"> ▪ Completion of Level 4 training ▪ Pass Level 4 exam* ▪ Minimum 7200 hours of combined relevant work experience and training ▪ Sign-off of all workplace skills in apprentice logbook ▪ Pass certification exam 	Journeyman Certification
<p>Wage Rates</p> <ul style="list-style-type: none"> ▪ Rates are percentages of the prevailing journeyman's wage rate in the place of employment of the apprentice. ▪ Rates must not be less than the wage rate established by the Labour standards Act (1990), as now in force or as hereafter amended, or by other order, as amended from time to time replacing the first mentioned order. ▪ Rates must not be less than the wage rate established by any collective agreement which may be in force at the apprentice's workplace. ▪ Employers are free to pay wage rates above the minimums specified. <p>*Level Exams</p> <ul style="list-style-type: none"> ▪ This program may not currently contain level exams, in which case this requirement will be waived until such time as level exams are available. 			

Cabinetmaker - 7200 Hours		
Class Calls (After Apprenticeship Registration)		
Call Level	Requirements for Class Call	Hours Awarded for In-School Training
Direct Entry Level 1	<ul style="list-style-type: none"> ▪ Minimum of 1800 hours of relevant work experience ▪ Prior Learning Assessment (PLA) at designated college (if applicable) 	360
Level 2	<ul style="list-style-type: none"> ▪ Minimum of 3000 hours of relevant work experience and training 	210
Level 3	<ul style="list-style-type: none"> ▪ Minimum of 5000 hours of relevant work experience and training 	210
Level 4	<ul style="list-style-type: none"> ▪ Minimum of 7020 hours of relevant work experience and training 	180
<p>Class calls at Minimum Hours</p> <ul style="list-style-type: none"> ▪ Class calls may not always occur at the minimum hours indicated. Some variation is permitted to allow for the availability of training resources and apprentices. 		

6.0 Tools

Apprentices shall be required to obtain their own hand tools applicable for the designated occupation of registration or tools as specified by the PACB.

7.0 Periodic Examinations and Evaluation

- 7.1 Every apprentice shall submit to such occupational tests and examinations as the PACB shall direct. If after such occupational tests and examinations the apprentice is found to be making unsatisfactory progress, his/her apprenticeship level and rate of wage shall not be advanced as provided in Section 5 until his/her progress is satisfactory to the Director of Apprenticeship and Trades Certification and his/her date of completion shall be deferred accordingly. Persistent failure to pass required tests shall be a cause for revocation of his/her Memorandum of Understanding.
- 7.2 Upon receipt of reports of accelerated progress of the apprentice, the PACB may shorten the term of apprenticeship and advance the date of completion accordingly.
- 7.3 For each and every course, a formal assessment is required for which 70% is the pass mark. A mark of 70% must be attained in both the theory examination and the practical project assignment, where applicable as documented on an official transcript.

- 7.4 Course credits may be granted through the use of a PACB approved matrix which identifies course equivalencies between designated trades and between current and historical Plans of Training for the same trade.

8.0 Granting of Certificates of Apprenticeship

Upon the successful completion of apprenticeship, the PACB shall issue a Certificate of Apprenticeship.

9.0 Hours of Work

Any hours employed in the performance of duties related to the designated occupation will be credited towards the completion of the term of apprenticeship. Appropriate documentation of these hours must be provided.

10.0 Copies of the Registration for Apprenticeship

The Director of Apprenticeship and Trades Certification shall provide copies of the Registration for Apprenticeship form to all signatories to the document.

11.0 Ratio of Apprentices to Journeypersons

Under normal practice, the ratio of apprentices to journeypersons shall not exceed two apprentices to every one journeyperson employed. Other ratio arrangements would be determined and approved by the PACB.

12.0 Relationship to a Collective Bargaining Agreement

Where applicable in Section 5 of these conditions, Collective Agreements take precedence.

13.0 Amendments to a Plan of Apprenticeship Training

A Plan of Training may be amended at any time by the PACB.

14.0 Employment, Re-Employment and Training Requirements

- 14.1 The Plan of Training requires apprentices to regularly attend their place of employment.
- 14.2 The Plan of Training requires apprentices to attend training for that occupation as prescribed by the PACB.

- 14.3 Failure to comply with Sections 14.1 and/or 14.2 will result in cancellation of the Memorandum of Understanding. Apprentices may have their MOUs reinstated by the PACB but would be subject to a commitment to complete the entire program as outlined in the General Conditions of Apprenticeship. Permanent cancellation in the said occupation is the result of non-compliance.
- 14.4 Cancellation of the Memorandum of Understanding to challenge journeyperson examinations, if unsuccessful, would require an apprentice to serve a time penalty of two (2) years before reinstatement as an apprentice or qualifying to receive a class call to training as a registered Trade Qualifier. Cancellation must be mutually agreed upon by the employer and the apprentice.
- 14.5 An employer shall ensure that each apprentice is under the direct supervision of an approved journeyperson supervisor who is located at the same worksite as the apprentice, and that the apprentice is able to communicate with the journeyperson with respect to the task, activity or function that is being supervised.
- 14.6 Under the Plan of Training the employer is required to keep each apprentice employed as long as work is available, and if the apprentice is laid off due to lack of work, to give first opportunity to be hired before another is hired.
- 14.7 The employer will permit each apprentice to attend training programs as prescribed by the PACB.
- 14.8 Apprentices who cannot acquire all the workplace skills at their place of employment will have to be evaluated in a simulated work environment at a PACB authorized training institution and have sign-off done by instructors to meet the requirements for certification.

15.0 Appeals to Decisions Based on Conditions Governing Apprenticeship Training

Persons wishing to appeal any decisions based on the above conditions must do so in writing to the Minister of Immigration, Population Growth and Skills within 30 days of the decision.

D. Requirements for Red Seal Endorsement

1. Evidence the required work experiences outlined in this Plan of Training have been obtained. This evidence must be in a format clearly outlining the experiences and must be signed by an appropriate person or persons attesting that these experiences have been obtained to the level required.
2. Successful completion of all required courses in the program.
3. A combination of training from an approved training program and suitable work experience totaling 7200 hours.

Or

A total of 10800 hours of suitable work experience.

4. Completion of a National Red Seal examination, to be set at a place and time determined by the Apprenticeship and Trades Certification Division.

E. Roles and Responsibilities of Stakeholders in the Apprenticeship Process

The apprenticeship process involves a number of stakeholders playing significant roles in the training of apprentices. This section outlines these roles and the responsibilities resulting from them.

The Apprentice:

- completes all required technical training courses as approved by the PACB.
- finds appropriate employment.
- completes all required work experiences in combination with the required hours.
- ensures work experiences are well documented.
- approaches apprenticeship training with an attitude and commitment that fosters the qualities necessary for a successful career as a qualified journeyman.
- obtains the required hand tools as specified by the PACB for each period of training of the apprenticeship program.

The Employer:

- provides high quality work experiences in an environment conducive to learning.
- remunerates apprentices as set out in the Plan of Training or Collective Agreements.
- provides feedback to training institutions, Apprenticeship and Trades Certification Division and apprentices in an effort to establish a process of continuous quality improvement.
- where appropriate, releases apprentices for the purpose of returning to a training institution to complete the necessary technical courses.
- ensures work experiences of the apprentice are documented.
- ensures a certified journeyperson is currently on staff in the same trade area as the apprentice and whose certification is recognized by the NL Department of Immigration, Population Growth and Skills.

The Training Institution:

- provides a high quality learning environment.
- provides the necessary student support services that will enhance an apprentice's ability to be successful.
- participates with other stakeholders in the continual updating of programs.

The Apprenticeship and Trades Certification Division:

- establishes and maintains program advisory committees under the direction of the PACB.
- promotes apprenticeship training as a viable career option to prospective apprentices and other appropriate persons involved, such as career guidance counsellors, teachers, parents, etc.
- establishes and maintains a protocol with training institutions, employers and other appropriate stakeholders to ensure the quality of apprenticeship training programs.
- ensures all apprentices are appropriately registered and records are maintained as required.
- schedules all necessary technical training periods for apprentices to complete requirements for certification.
- administers Level, provincial and interprovincial examinations.

The Provincial Apprenticeship and Certification Board:

- sets policies to ensure the provisions of the **Apprenticeship and Certification Act (1999)** are implemented.
- ensures advisory and examination committees are established and maintained.
- accredits institutions to deliver apprenticeship training programs.
- designates occupations for apprenticeship training and/or certification.