NL Curriculum Standard

Plan of Training

Lather (Interior Systems Mechanic)

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

July 2004

Preface

This curriculum standard is based on the 2002 edition of the National Occupational Analysis (NOA) for the Lather (Interior Systems Mechanic) trade. It describes the curriculum content for the Lather (Interior Systems Mechanic) 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.

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Document Status	Date Approved	Mandatory Implementation Dates	Comments
New	July 2004	September 2005 – Pre-employment September 2006 – Level 2 September 2007 – Level 3	
Update	March 2019	September 2019 – Pre-employment	Updated Related Suite courses

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A. 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 training institution, as long as pre-requisite conditions are satisfied.

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

A Pre-employment student who becomes an apprentice will also be required to complete Level 2 and 3 in the Newfoundland and Labrador Curriculum Standard (NLCS).

Pre-Employment				
Course No.	**Aacs No.**	**Course Name**	**Hours**	**Pre-Requisite(S)**
TS1510	--	Occupational Health & Safety	6	None
TS1520	--	WHIMS	6	None
TS1530	--	Standard First Aid	14	None
AJ1120	--	Rigging	30	TS1510
AJ1150	--	Basic Drawing and Sketching	75	None
AJ2410	--	Scaffolds	45	LA1140 LA1110
LA1100	--	Confined Space Awareness	6	None
LA1110	--	Fall Protection Awareness	6	None
LA1120	--	Power Line Hazards Awareness	4	None
LA1130	--	Workplace Harassment	4	None
LA1140	--	Interior Systems Fundamentals	120	TS1530

Pre-Employment				
Course No.	**Aacs No.**	**Course Name**	**Hours**	**Pre-Requisite(S)**
LA1150	--	Metal Wall Systems	105	LA1140
LA1160	--	Ceiling Systems	105	LA1140
AM1000	--	Introduction to Essential Skills	9	None
AP1102	--	Introduction to Apprenticeship	12	None
MC1062	--	Computer Essentials	15	None
AM1101	--	Math Essentials	42	None
AM1211	--	Lather Math Fundamentals	42	AM1101
CM2161	--	Communication Essentials	36	None
SD1761	--	Workplace Essentials	24	None
		Total Pre-Employment Hours	**706**	

*A student who can meet the mathematics requirement through an ACUPLACER® test may be exempted from AM1101 - Math Essentials. Please check with your training institution.

Required Work Experience

Level 2				
NL Course No.	**AACS No.**	**Course Name**	**Hours**	**Pre-Requisite(s)**
LA2100	--	Blueprint Reading and Estimating I	45	Pre-Employment
LA2110	--	Demountable Wall Systems	45	
LA2120	--	Advanced Ceiling Systems	45	
LA2130	--	Metal Cutting and Welding	90	
		Total Level 2 Hours	**225**	

Required Work Experience

Level 3				
NL Course No.	**AACS No.**	**Course Name**	**Hours**	**Pre-Requisite(s)**
LA2140	--	Blueprint Reading and Estimating II	30	Level 2
LA2150	--	Specialty Wall Systems	30	
LA2160	--	Specialty Ceiling Systems	45	
LA2170	--	Access Flooring	15	
LA2180	--	Radiation Shielding and Sound Proofing	30	
LA2190	--	Metal Lath and Stucco Wire	15	
		Total Level 3 Hours	**165**	
		Total Course Credit Hours	**1096**	

Pre-Employment

TS1510 Occupational Health and Safety

Learning Outcomes:

- Demonstrate knowledge of how to prevent accidents and illnesses.
- Demonstrate knowledge of how to improve health and safety conditions in the workplace.

Duration: 6 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Interpret the Occupational Health and Safety Act laws and regulations.
   - i. explain the scope of the act
     - application of the Act
     - Federal/Provincial jurisdictions
     - Canada Labour Code
     - rules and regulations
     - private home application
     - conformity of the Crown by the Act

2. Explain responsibilities under the Act and Regulations.
   - i. duties of employer, owner, contractors, sub-contractors, employees, and suppliers

3. Explain the purpose of joint health and safety committees.
   - i. formation of committee
   - ii. functions of committee
   - iii. legislated rights
   - iv. health and safety representation
   - v. reporting endangerment to health
   - vi. appropriate remedial action
   - vii. investigation of endangerment
   - viii. committee recommendation
   - ix. employer's responsibility in taking remedial action

4. Examine right to refuse dangerous work.
   i. reasonable grounds for refusal
   ii. reporting endangerment to health
   iii. appropriate remedial action
   iv. investigation of endangerment
   v. committee recommendation
   vi. employer's responsibility to take appropriate remedial action
   vii. action taken when employee does not have reasonable grounds for refusing dangerous work
   viii. employee's rights
   ix. assigning another employee to perform duties
   x. temporary reassignment of employee to perform other duties
   xi. collective agreement influences
   xii. wages and benefits

5. State examples of work situations where one might refuse work.

6. Describe discriminatory action.
   i. definition
   ii. filing a complaint procedure
   iii. allocated period of time a complaint can be filed with the Commission
   iv. duties of an arbitrator under the Labour Relations Act
   v. order in writing inclusion
   vi. report to commission allocated period of time to request arbitrator to deal with the matter of the request
   vii. notice of application
   viii. failure to comply with the terms of an order
   ix. order filed in the court

7. Explain duties of commission officers.
   i. powers and duties of officers
   ii. procedure for examinations and inspections
   iii. orders given by officers orally or in writing
   iv. specifications of an order given by an officer to owner of the place of employment, employer, contractor, sub-contractor, employee, or supplier
   v. service of an order
   vi. prohibition of persons towards an officer in the exercise of his/her power or duties
   vii. rescinding of an order
   viii. posting a copy of the order
   ix. illegal removal of an order

8. Interpret appeals of others.
   i. allocated period of time for appeal of an order
   ii. person who may appeal order
   iii. action taken by commission when person involved does not comply with the order
   iv. enforcement of the order
   v. notice of application
   vi. rules of court

9. Explain the process for reporting of accidents.
   i. application of act
   ii. report procedure
   iii. reporting notification of injury
   iv. reporting accidental explosion or exposure
   v. posting of act and regulations

Practical Requirements:

1. Conduct an interview with someone in your occupation on two or more aspects of the act and report results.

2. Conduct a safety inspection of shop area.

TS1520 Workplace Hazardous Materials Information System (WHMIS)

Learning Outcomes:

- Demonstrate knowledge of interpreting and applying the Workplace Hazardous Materials Information System (WHMIS) regulation under the Occupational Health and Safety Act.

Duration: 6 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Define WHMIS safety.
   - i. rational and key elements
   - ii. history and development of WHIMIS
   - iii. WHMIS legislation
   - iv. WHMIS implementation program
   - v. definitions of legal and technical terms

2. Examine hazard identification and ingredient disclosure.
   - i. prohibited, restricted and controlled products
   - ii. classification and the application of WHMIS information requirements
   - iii. responsibilities for classification
     - the supplier
     - the employer
     - the worker - Classification: rules and criteria
     - information on classification
     - classes, divisions and subdivision in WHMIS
     - general rules for classification
     - class A - compressed gases
     - class B - flammable and combustible materials
     - class C - oxidizing material
     - class D - poisonous and infectious material
     - class E - corrosive material
     - class F - dangerously reactive material
   - iv. products excluded from the application of WHMIS legislation
     - consumer products
     - explosives
     - cosmetics, drugs, foods and devices
     - pest control products
     - radioactive prescribed substances
     - wood or products made of wood
     - manufactured articles

- tobacco or products of tobacco
- hazardous wastes
- products handled or transported pursuant to the Transportation of Dangerous Goods (TDG) Act

v. comparison of classification systems – WHMIS and TDG
vi. general comparison of classification categories
vii. detailed comparison of classified criteria

3. Explain labeling and other forms of warning.
   i. definition of a WHMIS label
      - supplier label
      - workplace label
      - other means of identification
   ii. responsibility for labels
      - supplier responsibility
      - employer responsibility
      - worker responsibility
   iii. introduce label content, design and location
      - supplier labels
      - workplace labels
      - other means of identification

4. Introduce material safety data sheets (MSDS).
   i. definition of a material safety data sheet
   ii. purpose of the data sheet
   iii. responsibility for the production and availability of data sheets
      - supplier responsibility
      - employer responsibility
      - workers responsibility

Practical Requirements:

1. Locate WHMIS label and interpret the information displayed.

2. Locate a MSDS sheet for a product used in the workplace and determine what personal protective equipment and other precautions are required when handling this product.

TS1530 Standard First Aid

Learning Outcomes:

- Demonstrate knowledge of recognizing situations requiring emergency action.
- Demonstrate knowledge of making appropriate decisions concerning first aid.

Duration: 14 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Complete a **St. John Ambulance or Canadian Red Cross** Standard First Aid Certificate course.

AJ1120 Rigging

Learning Outcomes:

- Demonstrate knowledge of how to use and maintain rigging equipment.

Duration: 30 Hours

Pre-Requisite(s): TS1510

Objectives and Content:

1. List the Occupational Health and Safety Regulations for rigging.
2. Describe the different types of ropes.
3. List the different kinds of knots.
4. Describe slings.
5. Describe methods of lead balancing.
6. Describe the safety factors to be considered when using swing staging.
7. Describe the proper procedures and equipment for handling heavy objects.
8. Describe types and conditions of approved work platforms.
9. Specify the use of screw jacks versus hydraulic units.
10. Specify the use of elevators.

Practical Requirements:

1. Use and maintain rigging equipment.
   - i. recognize and use International Hand Signals
   - ii. calculate Safe Working Loads
   - iii. interpret occupational health and safety regulations
   - iv. demonstrate the safe and proper use of lifting equipment such as come-a-longs, chain falls, jacks, winches, overhead cranes, jacks, skids, cable tuggers, plate grabs, reeved blocks, slings and rope

v. demonstrate proper use of knots
vi. use lifting attachments such as eye bolts and lifting lugs, beam clamps and crawlers, snatch blocks, spreader bars, shackles and screw jacks
vii. transfer loads using lifting equipment
viii. use hoisting equipment
ix. direct/assist in loading/unloading masonry units from trucks
x. direct/assist hoisting masonry units to work stations

2. Use and maintain overhead cranes. [Theory]
   i. safely and effectively use overhead cranes
   ii. use proper lifting procedures
   iii. use hoisting and/or crane signals
   iv. use plate grab and/or slings

AJ1150 Basic Drawing and Sketching

Learning Outcomes:

- Demonstrate knowledge of the procedures used to read and interpret blueprint drawings.
- Demonstrate knowledge of how to sketch views.

Duration: 75 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Describe the alphabet of lines.
2. List the basic drawing symbols.
3. Explain what is meant by quality of lines.
4. Describe metric, mechanical, architectural and civil scales.
5. Describe the different types of pencil lead grades.
6. Describe letter types.
7. Describe lettering instrument types.
8. Explain spacing, sizes and lettering techniques.
9. Describe different view orientations.
10. Describe obliques, isometrics and perspectives.
11. Explain sketching techniques.
12. Explain main view and possible views.
13. Describe the six principle views.
14. Explain association of surfaces.
15. Explain matching pictorials.

16. Describe types of dimensions and lines used.

17. Explain the rules of dimensioning.

18. Explain the various methods of producing lines.

19. Describe the purpose and types of sectional views.

20. Explain conventions associated with sectional views such as symbols, cutting plane lines, broken-out lines, etc.

21. Locate standard drawing symbols used on electrical, hydraulic and pneumatic drawings.

22. Locate colour codes used for electrical, hydraulic and pneumatic schematics.

23. Explain the purpose and methods of dimensioning.

24. Explain intersections and developments.

25. Explain graphs reticulation.

Practical Requirements:

1. Construct geometric shapes and lines.
   - i. draw lines to scale
   - ii. scale lines
   - iii. divide lines into equal parts
   - iv. bisect lines
   - v. construct angles
   - vi. bisect angles
   - vii. construct concave and convex curves
   - viii. construct circles, arcs, tangents, ellipses, polygons, etc.

2. Sketch orthographic projections.
   - i. visualize object
   - ii. select views
   - iii. layout sketch
   - iv. sketch projection
   - v. dimension sketch
   - vi. make notations

3. Sketch sectional views.
   i. locate section
   ii. select type of view
   iii. determine scale
   iv. sketch view
   v. dimension sketch
   vi. make notations

4. Sketch primary auxiliary views.
   i. visualize the view
   ii. layout the sketch
   iii. sketch view
   iv. dimension sketch
   v. make notations

5. Identify information from blueprints and drawings.
   i. visualize views and projections
   ii. identify information from schematic diagrams, assembly drawings, views, feeder maps, etc.
   iii. identify sequence of fabrication according to blueprint.
   iv. identify cut of materials from sketches
   v. interpret horizontal, vertical, curved, inclined lines, fillets, and radii on working drawings
   vi. identify dimensions of holes, cylinders, circles, angles and arcs

6. Interpret mechanical drawings.
   i. interpret and apply required information from mechanical drawings

7. Interpret electrical drawings.
   i. interpret and apply required information from electrical drawings

8. Read architectural and structural drawings.
   i. read plot plans, foundation plans, floor plans, details, elevations and sections

9. Interpret specifications.
   i. interpret manufacturing specifications
   ii. identify tolerance specifications
   iii. interpret specifications (company standards books)

10. Uses codes, regulations and standards.
    i. find and interpret specific requirements in the National Building Code
    ii. find and interpret specific requirements in the National Energy Code
    iii. find and interpret specific requirements in the Canadian Standards Association standards
    iv. find and interpret specific requirements in the Buildings Accessibility Act and Regulations
    v. find and interpret specific requirements in the Canadian Wood Council Span Book
    vi. interpret and comply with national, provincial and municipal codes and regulations (employment, health, environment, security regulations and standards

11. Performs quantity takeoffs.
    i. interpret the rules for performing quantity takeoffs
    ii. use scale rules and calculators
    iii. identify information from bill of materials
    iv. schedule materials availability to meet project requirements

AJ2410 Scaffolds

Learning Outcomes:

- Demonstrate knowledge of the procedures used to construct wood scaffolds with respect to various codes and regulations.
- Demonstrate knowledge of safety practices in potentially harmful situations.
- Demonstrate knowledge of showing an appreciation for conservation and environmental issues.
- Demonstrate knowledge of the procedures used to identify, select, estimate and conserve building materials.
- Demonstrate knowledge of the procedures used to ensure energy efficient building construction.

Duration: 45 Hours

Pre-Requisite(s): LA1140, LA1110

Objectives and Content:

1. Describe construction techniques for wood scaffolds.

2. Describe safety requirements for constructing wood scaffolds.

3. Describe the different types of scaffold.

4. Describe the different types of ladders.

5. Describe power scaffolding.

6. Explain how suspended scaffolding is erected and when and how it is used.

7. List safety rules for erecting and working on scaffolding (Safety in structural components).
   i. putlogs
   ii. braces
   iii. ties
   iv. planking
   v. footboards
   vi. scaffold brackets

8. Describe special problems of rolling and suspended scaffolding.

Practical Requirements:

1. Build common type of wood scaffolds.
   i. build wood scaffold ladders according to safety regulations
   ii. dismantle wood scaffolds
   iii. design scaffolds for economy of time and material
   iv. construct a roof bracket
   v. construct a roof scaffold for a chimney

2. Use steel scaffolding.
   i. erect and dismantle standard steel scaffolds for at least three lifts
   ii. erect, dismantle and maintain rolling scaffolds
   iii. erect, dismantle and maintain stages and bleachers
   iv. describe adjustable tower scaffolding and its advantages
   v. use machine scaffolds
      - scissor lifts
      - zooms
   vi. inspect scaffolding before using

3. Build special scaffolds.
   i. explain the necessity and use of swing staging
   ii. assemble and erect various special scaffolds such as outrigger and suspended types

LA1100 Confined Space Awareness

Learning Outcomes:

- Demonstrate knowledge of applications and procedures used for working in confined spaces.
- Demonstrate knowledge of the procedures used to properly prepare a confined space for entry.
- Demonstrate knowledge of the procedures used to enter a confined space safely.
- Demonstrate knowledge of the procedures used to perform the duties of an attendant.
- Demonstrate knowledge of the procedures used to deal with an emergency.

Duration: 6 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Identify situations that require specialty safety equipment.

2. Identify safety procedures associated with confined spaces.

3. Recognize confined space hazards.
   i. define a confined space
   ii. identify types of hazards in confined spaces

4. Describe procedures for verification of entry permit and identify proper controls for confined space entries.
   i. list steps to protect yourself from confined space hazards
   ii. define an entry permit
   iii. list information included on a confined space entry permit
   iv. explain what action must be taken if a permit expires before work is completed

5. Prepare for confined space entry.
   i. state the first step in entry preparation
   ii. list examples of proper entry preparation
   iii. list types of personal protective equipment used in confined spaces

6. Determine testing techniques for confined spaces.
   i. list the necessary steps of air testing
   ii. state the correct order for testing gases

7. Identify confined space entry procedures.
   i. identify the attendants responsibilities
   ii. identify the area where the attendant should be stationed
   iii. identify the entrants responsibilities

8. Explain confined space rescue techniques.
   i. list three types of confined space rescues
   ii. explain non-entry rescue
   iii. list the requirements of an on-site rescue team

Practical Requirements:

None.

LA1110 Fall Protection Awareness

Learning Outcomes:

- Demonstrate knowledge of the various types of fall protection and their components.
- Demonstrate knowledge of the proper use of fall protection equipment and personal fall arrest systems.
- Demonstrate knowledge of fall hazards in the workplace and how to take corrective measures to eliminate them through the selection of appropriate fall protection systems.

Duration: 6 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Define the term fall protection.

2. Explain why fall protection is important in the workplace.

3. Determine when to use fall protection.

4. List the A, B, C, D's of a complete fall protection system.

5. Describe the basic function of a travel restrict system.
   i. permanent and temporary guard rails
   ii. personal travel restrict systems

6. Describe the basic function of a fall arrest system.
   i. identify the components of a personal fall arrest system
      - full body harness
      - shock absorbers
      - lanyards
      - lifelines
        - vertical
        - horizontal
      - rope grabs
      - anchors
   ii. explain how to put on a full body harness

7. Describe the basic function of a work positioning system.
   i. list the components of a personal work positioning system

8. Explain when inspections on equipment must be conducted and what action must be taken if defects or damage is discovered.
   i. list components of equipment that require inspection

Practical Requirements:

None.

LA1120 Power Line Hazards Awareness

Learning Outcomes:

- Demonstrate knowledge of the procedures used to identify potential power line hazards.
- Demonstrate knowledge of the procedures used to identify the Occupational Health and Safety Regulation governing power line hazards.
- Demonstrate knowledge of the procedures used to work safely when working near electricity.

Duration: 4 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Define the term electricity.

2. State four characteristics of electricity.

3. Define and list four examples of a conductor.

4. Define and list four examples of an insulator.

5. Define the following terms:
   i. voltage
   ii. ampere
   iii. resistance
   iv. pressure

6. Explain ‘the path of least resistance’.

7. State Ohm’s law.

8. Explain voltage vs current.

9. Explain ratio comparison.
   i. accident / incident

10. Differentiate between breakers and fuses.

11. Identify appropriate laws and regulations.

12. Identify power line structures.

13. Identify potential hazards when working near high voltage power lines during windy conditions.

14. Determine when signal personnel are required and what their responsibilities are when operating cranes or boom trucks around power lines.

15. Explain a flash over.

Practical Requirements:

1. Demonstrate the correct procedure to exit equipment that has contacted overhead power lines.

LA1130 Workplace Harassment

Learning Outcomes:

- Demonstrate knowledge of explaining what constitutes workplace harassment.
- Demonstrate knowledge of the procedures used to determine the methods to prevent workplace harassment.
- Demonstrate knowledge of the procedures used for the investigation of complaints.

Duration: 4 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Define harassment.

2. Identify types of behaviour that can be considered harassment.
   i. verbal
   ii. visual
   iii. physical
   iv. sexual
      - quid pro quo
      - hostile environment

3. Determine employee responsibilities to eliminate workplace harassment with respect to:
   i. behaviour
   ii. sensitivity
   iii. observations
   iv. responding
   v. reporting

4. Determine management responsibilities regarding workplace harassment with respect to:
   i. writing policies, which include:
      - stating the organization's policy statement
      - identifying legislated agencies governing workplace harassment
        - Occupational Health and Safety
        - Human Rights Commission
      - identifying who it applies to
      - identifying all business locations
      - determining training requirements
      - explaining the complaint procedure

ii. conducting inspections, which include:
- identifying who conducts the inspections
- determining when they are carried out
- identifying where they are conducted
- determining what is to be inspected
- communicating findings

iii. Investigating complaints, which include:
- identifying sources of information
- conducting interviews
- analyzing collected information
- determining appropriate action
- communicating findings to the accuser and alleged harasser

Practical Requirements:

None.

LA1140 Interior Systems Fundamentals

Learning Outcomes:

- Demonstrate knowledge of the procedures used to perform work through the safe use of relevant tools and equipment.
- Demonstrate knowledge of the procedures used to work safely in potentially harmful situations.
- Demonstrate knowledge of the procedures used to identify, select and estimate building materials.
- Demonstrate knowledge of showing an appreciation for conservation and environmental issues.

Duration: 120 Hours

Pre-Requisite(s): TS1530

Objectives and Content:

1. Describe types of wood products and their characteristics.

2. Describe types of construction equipment.

3. Describe types and gauges of cold-formed steel framing materials.

4. Define measurement terminology used in the interior systems occupation.
   i. linear feet
   ii. board feet
   iii. square feet

5. List specific tools used for various work situations.

Practical Requirements:

1. Uses and maintains hand tools.
   i. square an undressed board
   ii. crosscut wood using handsaws
   iii. make cuts at different angles using metal cutting tools
   iv. check boards for straightness
   v. select material for a particular project
   vi. grind a plane iron and a wood chisel
   vii. dress a grinding wheel using a wheel dress

viii. sharpen auger bit sets
- flat bits
- twist drill bits

ix. use measuring tools
x. use hammering techniques
xi. test a spirit level
xii. use abrading tools
- sandpaper
- rasps

xiii. use dismantling tools
- nail pullers
- wrecking bars

xiv. cut metal studs and tracks
xv. bend hanger wires

2. Uses and maintains portable power tools.
   i. use screw guns
   ii. use electric shears
   iii. use portable saws
   - circular
   - reciprocating
   - mitre
   - cut-off
   - saber

   iv. use portable power drills
   v. use portable abrading tools
   - sanders
   - grinders

   vi. use portable planning tools
   vii. use routers and laminate trimmers
   viii. ability to operate and maintain portable equipment
   - chainsaws
   - generators
   - air compressors
   - air/gas-powered fastening tools
   - chipping guns
   - concrete saws
   - impact drills

3. Uses and maintains stationary power tools.
   i. cross cut using a table saw, a radial arm saw and a miter saw
   ii. rip using a radial arm saw, table saw and band saw
   iii. cut bevels or chamfers using a radial arm saw, a table saw, a jointer and a shaper
   iv. cut miters using a radial arm saw, a table saw and a miter saw

v. cut angles and compound angles using a radial arm saw, a table saw and a band saw
vi. cut dados using a table saw, a radial arm saw and a shaper
vii. rabbet using a table saw, a radial arm saw, and a jointer
viii. notch using a table saw and a radial arm saw
ix. use stationary surfacing machines
x. use stationary drilling and boring tools
xi. use stationary abrading tools

4. Uses hand tools to construct.
   i. saw horse
   ii. tool box
   iii. oil stone case
   iv. jigs

5. Uses explosive actuated tools.
   i. select the proper tool for a specific use
   ii. follow Occupational Health and Safety regulations
   iii. choose the correct shot and fastener for the job
   iv. apply safety practices while using explosive actuated tools
   v. fasten construction material to masonry and steel
   vi. maintain and clean explosive actuated tools

LA1150 Metal Wall Systems

Learning Outcomes:

- Demonstrate knowledge of the procedures used to frame various metal wall systems in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to install vapour barriers and thermal insulation in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to install drywall on metal wall systems in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 105 Hours

Pre-Requisite(s): LA1140

Objectives and Content:

1. State purpose of chalk lines.

2. Determine standard opening dimensions.

3. Explain layout procedures.

4. Explain and determine procedures and tools to cut tracks and studs.

5. List types and sizes of tracks.

6. Explain material characteristics and corresponding cutting techniques.

7. Determine material characteristics for caulking and taping requirements.

8. List purposes and characteristics of caulking compounds.

9. Explain application procedures for caulking and taping.

10. List various fastening procedures and fastening tools.

11. Explain structural characteristics of materials.
    i. steel
    ii. concrete
    iii. wood
    iv. glass
    v. aluminum

12. List types and sizes of doors and window frames.

13. Determine procedures and angles to cut doorframes, including adjustment and placement techniques.

14. Explain levelling and shimming procedures.

15. List wall finishes and structural characteristics of metal door frame materials.

16. List types and sizes of studs.

17. Explain layout procedures of studs.

18. Identify types and characteristics of columns and bulkheads, and their framing procedures.

19. Identify suspension systems and suspension systems requirements.

20. Describe framing procedures and materials required to frame openings.

21. List types and sizes of reinforcing channels and explain their function.

22. Determine placement of reinforcing channels.

23. List sizes, types and characteristics of backing materials.

24. Explain characteristics of fixtures and accessories to be fastened.
    i. surface mounted
    ii. recessed

25. List types and gauges of materials used for J-tracks and I-studs.

26. Explain procedures and techniques to measure and cut J-tracks and I-studs.

27. Identify thicknesses and types of core board materials.

28. Explain measuring and cutting procedures and techniques for core board.

29. Determine installation procedures and techniques for installing J-tracks.

30. Determine installation procedures and techniques for installing I-studs and core board.

31. Identify types and grades of insulation.
    i. cellulose
    ii. fiberglass

iii. styrofoam
iv. ridged foam

32. Identify R-values of insulation.

33. Determine manufacturer's procedures and health and safety procedures to install insulation.

34. Determine amount of insulation required around windows, doors, electrical outlets and recessed fixtures.

35. Explain fastening methods in relation to materials.
    i. friction-fit
    ii. adhesive
    iii. stapling
    iv. mechanical

36. List types of vapour barriers.

37. Explain vapour barrier application techniques and procedures.

38. List caulking types and characteristics.

39. Identify areas to be caulked.

40. Assess the impact of environmental conditions on drywall materials and installation techniques.
    i. humidity
    ii. temperature

41. Identify types and sizes of drywall.

42. Determine drywall installation requirements.

43. Determine starting point for drywall application.

44. Identify fastening techniques for installing drywall to flat and curved surfaces.

45. Define fire resistance ratings.

46. List types of materials that are rated for fire resistance.

47. Interpret national, provincial and/or municipal building codes related to fire resistance ratings.

48. Determine if materials are within fire ratings specified by the national building codes.

49. Identify manufacturer's recommended procedures for installing fire rated drywall.

50. Identify manufacturer's recommended procedures and techniques to apply fire resistant insulation.

51. List the characteristics of fire resistant insulation and caulking.

52. Identify protective clothing and state associated hazards when working with fire resistant insulation and caulking.

53. Identify types of trim.
    i. J-mould
    ii. corner bead
    iii. baseboard
    iv. control joints

54. Determine trim fastening techniques and procedures.

55. List characteristics and purpose for trim.

56. List types and characteristics of trim fasteners.

Practical Requirements:

1. Locates exterior / interior walls.
    i. locate grid symbols on plans
    ii. locate common grid lines
    iii. transfer tape readings to floor

2. Chalk lines.
    i. locate floor markings
    ii. secure chalk line to floor markings
    iii. snap chalk line
    iv. set up, position and activate laser alignment system

3. Establishes location of openings.
    i. find architectural references
    ii. transfer blueprint readings to chalk lines by measuring
    iii. measure off and mark location of openings

4. Measure and cut tracks and studs to required sizes.

5. Applies caulking / foam tape to tracks.
   i. select caulking / foam tape
   ii. apply caulking / foam tape to track
   iii. recognize and correct irregular application

6. Fastens top and bottom tracks.
   i. installs track to wood surfaces

7. Sets hollow metal door frames.
   i. measure and cut frames to size
   ii. level, square, plumb and shim door frames

8. Erects and fastens metal studs.
   i. select and fasten metal studs to meet material requirements
   ii. install door / window headers

9. Frames columns and bulkheads.

10. Frames openings.

11. Inserts reinforcing channels.
   i. measure and cut reinforcing channels
   ii. installs channels in irregular ceilings or protrusions

12. Layout, measure and cut backing materials.

13. Fastens backing.
   i. position, level, and square backing according to accessory placement requirements

14. Measures and cuts J-tracks and I-studs to size.

15. Assesses environmental conditions.
   i. read and interpret an hydrometer for humidity

16. Installs J-tracks.
   i. plumb wall for J-track installation

17. Measures and cuts core board.

18. Installs I-studs and core board.

19. Fills wall cavity with insulation.

20. Affixes vapour barrier to warm side of wall.

21. Seals joints in wall.
    i. seal joints and wall penetrations according to provincial / municipal or National Building Codes (NBC)
    ii. apply caulking
    iii. recognize and correct irregular application

22. Select and cut drywall to size.

23. Marks location of studs.
    i. transfer measurements of studs to finished drywall surface

24. Applies and fastens drywall.
    i. align drywall to studs
    ii. inspect seating of fastener and adjust to meet job requirements

25. Installs layers of drywall with staggered joints.
    i. fasten and install drywall according to fire rating requirements
    ii. measure and cut drywall to ensure staggering of joints and fasteners

26. Applies and fastens trim.
    i. measure, position and cut trim for flat and curved surfaces
    ii. select fasteners to meet trim and work area requirements

LA1160 Ceiling Systems

Learning Outcomes:

- Demonstrate knowledge of the procedures used to install various ceiling systems in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 105 Hours

Pre-Requisite(s): LA1140

Objectives and Content:

1. List types of surfaces for drywall ceilings.
2. List types, sizes and characteristics of fasteners and inserts.
3. Identify gauges / sizes of hangers and hanger application methods.
4. Identify types and location of wire ties.
5. Identify types of tying techniques and procedures.
6. Determine location of furring channel in relation to carrier channel.
7. Determine framing procedures and materials required to frame openings.
8. Identify type and purpose of openings.
9. Explain purpose of consulting with other trades.
10. Identify sizes, types and characteristics of backing.
11. Identify fixtures, products and weights to be attached to backing.
12. Identify characteristics of fixtures and accessories to be fastened.
    i. surface mounted
    ii. recessed
13. Explain fastening techniques for installing drywall to flat and curved surfaces.
14. Determine screw depth requirements.

15. Explain purpose and characteristics of trim.

16. Identify types of mouldings and installation techniques and procedures.

17. Explain joint refinishing techniques and procedures.

18. Recognize types of acoustic and drywall ceiling systems.

19. Determine physical characteristics of surface materials where mouldings are to be applied.
    i. wood
    ii. cement
    iii. block

20. Explain installation requirements of mechanical and electrical ceiling fixtures.
    i. sprinklers
    ii. air diffusers
    iii. light fixtures

21. Interpret fire-rating specifications.

22. Determine types, sizes and purpose of tees.

23. Determine procedures and techniques to measure and cut tees.

24. Identify direction and position requirements of main tees.

25. Recognize types of mechanical ceiling systems and dimensions of ceiling panels.

26. Determine types and sizes of tiles to be cut.

27. Identify types and sizes of clips.

28. Determine required spacing between clips.

29. Recognize types of specialty ceilings.

30. Recognize types and properties of metal linear beams.

31. Recognize types and sizes of beam fasteners.

32. Determine linear beam measuring and cutting techniques and procedures.

33. Determine types and dimensions of filler strips.

34. Determine installation techniques and procedures for strips.

35. Determine beam materials.

36. Determine types and surface properties of protective coverings.

37. Determine cleaning materials and techniques.

Practical Requirements:

1. Establishes finished ceiling lines.
   i. determine location of benchmark
   ii. determine ceiling height from bench-mark and mark required height
   iii. measure and chalk lines

2. Fastens wall moulding to wall.
   i. select and apply fasteners
   ii. locate and secure wall mouldings

3. Establishes and squares layout lines.
   i. measure and apply squaring techniques
   ii. verify that layout lines meet specifications

4. Bends hangers.
   i. determine location of hangers
   ii. set up scaffold system according to job site condition
   iii. set up and operate laser alignment system
   iv. establish hanger height
   v. position hangers to specifications
   vi. measure and bend hangers
   vii. tie and twist hanger

5. Cuts carrying channels and furring channels.
   i. identify different types, sizes and gauges of carrying channels and furring
   ii. measure channels

6. Fastens carrying channel to hangers.
   i. determine manufacturer’s procedures for attaching carrying channel
   ii. select types of ties
   iii. space channels
   iv. set channel on hanger and secure

7. Fastens furring channels to carrying channels at correct spacing.
   i. measure and position channels to maintain straight line
   ii. fasten wire ties to carrying channels

8. Frames all openings.
   i. cut and install frames for opening
   ii. level, square and adjust frames

9. Cuts backing.
   i. select backing materials
   ii. layout, measure and cut backing materials
   iii. determine and measure location of openings

10. Fastens backing.
   i. select sizes and types of fasteners

11. Applies and fastens drywall.
   i. measure and cut drywall
   ii. align drywall to furring
   iii. select fasteners to meet installation specifications
   iv. inspect seating of fastener and adjust to meet job requirements

12. Applies and fastens trim.
   i. select trim to meet installation requirements
   ii. measure, position and cut trim for flat and curved surfaces
   iii. select fasteners to meet trim and work area requirements

13. Applies and fastens precast decorative wall and ceiling mouldings.
   i. locate and match sections of decorative mouldings
   ii. select fasteners to meet moulding requirements
   iii. measure, level and fasten mouldings
   iv. secure decorative mouldings by glue and screw method
   v. refinish joints in decorative mouldings

14. Cuts main tees.
   i. select types and sizes of tees to correspond with specifications and layout
   ii. measure and cut main tees according to squared lines

15. Fastens main tee to hangers.
   i. verify positioning of hangers
   ii. wrap and secure hangers, including extra support around fixtures

16. Inserts cross tees to main tees.
   i. frame ceilings to accommodate lighting and mechanical fixtures
   ii. square ceiling
   iii. assemble ceiling systems

17. Cuts ceiling tiles for accessories and borders.

18. Installs ceiling tile.

19. Clips ceiling tiles for fire rated ceilings.

20. Measures and cuts metal linear beams.

21. Inserts filler strips between beams.

AM1000 Introduction to Essential Skills

Learning Outcomes:

- Demonstrate knowledge of the nine nationally recognized essential skills.
- Demonstrate knowledge of the essential skills levels of complexity.
- Demonstrate knowledge of the essential skills required for the learners chosen trade.
- Demonstrate an awareness of essential skills assessments.

Duration: 9 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Identify and describe the essential skills recognized by the Government of Canada through the Office of Literacy and Essential Skills (OLES).
   i. reading
   ii. document use
   iii. numeracy
   iv. writing
   v. oral communication
   vi. working with others
   vii. thinking
   viii. computer use
   ix. continuous learning

2. Describe the Levels of Complexity measurement assigned to essential skills.

3. Identify the essential skills, along with their complexity level, identified as necessary for the learner's trade.
   i. RSOS / NOA content[1]
   ii. OLES Essential Skills Profiles[2]
   iii. OLES tools and support for apprentices and tradespersons[3]

4. Describe the nature and purpose of essential skills assessment.
   i. self-assessment & formal assessment tools
   ii. indicators of deficiencies
   iii. suggestions for improvement

5. Describe the benefits of essential skills improvement.
   i. confidence at work
   ii. employability
   iii. success in apprenticeship
   iv. wage & job advancement

Practical Requirements:

1. Complete an essential skills self-assessment addressing numeracy, document use and reading. The online **Government of Canada Essential Skills Indicator[4] and Essential Skills self-assessment for the trades[5]** are to be used unless the instructor provides a similar assessment tool or tools.

2. Participate in a group discussion about the impact of gaps in essential skills that may be revealed by the self-assessments completed, and the value of improving essential skills.

*Students are graded complete or incomplete on this practical work, no grade is permitted for self-assessment performance. However, completion of the practical requirements is mandatory for completion of this unit.

Resources:

All footnotes are in the companion document “Resources for Introduction to Essential Skills” which is available online from Apprenticeship and Trade Certification.

AP1102 Introduction to Apprenticeship

Learning Outcomes:

- Demonstrate knowledge of how to become a registered apprentice.
- Demonstrate knowledge of the steps to complete an apprenticeship program.
- Demonstrate knowledge of various stakeholders in the apprenticeship process.
- Demonstrate knowledge of the Red Seal program.

Duration: 12 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Define terminology associated with apprenticeship.
   - i. apprentice
   - ii. registered apprentice
   - iii. trade qualifier
   - iv. journeyperson
   - v. certified journeyperson
   - vi. Certificate of Apprenticeship
   - vii. Certificate of Qualification
   - viii. dual certification
   - ix. compulsory trades

2. Explain the roles and responsibilities of those involved in the apprenticeship system in Newfoundland and Labrador.
   - i. registered apprentice
   - ii. training institution
   - iii. employer
   - iv. journeyperson
   - v. mentor
   - vi. Department of Immigration, Skills and Labour
     - Industrial Training section
     - Standards and Curriculum section
   - vii. Provincial Trade Advisory Committees (PTAC)
   - viii. Provincial Apprenticeship and Certification Board (PACB)

3. Describe the training components of an apprenticeship.
   - i. in-school
     - Pre-employment / Level I
     - advanced levels
   - ii. workplace experience

4. Explain the steps in the registered apprenticeship process.
   - i. meet entrance requirements
     - education
     - employment
     - Recognition of Prior Learning (RPL) - if applicable
   - ii. complete the registration process
     - application
     - required documents
   - iii. complete the Memorandum of Understanding (MOU)
     - contract responsibilities
     - probation period
     - cancellation
   - iv. maintain Record of Occupational Progress (Logbook)
     - sign off skills
     - record hours
     - update Apprenticeship Program Officer (APO) on progress
   - v. class calls
     - hour requirements
     - EI eligibility
     - training schedule
   - vi. level examinations - if applicable
   - vii. progression schedule
     - apprenticeship level
     - wage rates
   - viii. certification examinations
     - Provincial
     - Interprovincial
       - written
       - practical - if applicable
   - ix. certification
     - Certificate of Apprenticeship
     - Certificate of Qualification
     - Provincial journeyperson - Blue Seal
     - Interprovincial journeyperson - Red Seal endorsement (RSE)

5. Identify the Conditions Governing Apprenticeship.

6. Discuss cancellation of apprenticeship.
   i. failure to notify of address change
   ii. extended periods of unemployment
   iii. lack of contact with an APO for an extended period
   iv. failure to respond to class calls
   v. declining of multiple class calls

7. Explain the Interprovincial Standards Red Seal program.
   i. designated Red Seal trades
   ii. the Red Seal Occupational Standard (RSOS)
   iii. relationship of RSOS to IP examination
   iv. national qualification recognition and mobility

8. Identify the current financial incentives available to apprentices.
   i. Federal
   ii. Provincial

9. Explain the Provincial / Territorial Apprentice Mobility Guidelines.
   i. temporary mobility
   ii. permanent mobility

10. Describe Atlantic and National Harmonization initiatives.

Practical Requirements:

1. Use the Provincial Apprenticeship and Trades Certification website at www.gov.nl.ca/atcd.
   i. locate, download, and complete the Application for Apprenticeship and Memorandum of Understanding (MOU)
   ii. locate the address of the Industrial Training office closest to this campus
   iii. locate the training schedule and identify the start date of the next class call for this trade
   iv. locate and review the learning resources applicable to this trade
      - Study Guide
      - Exam Preparation Guide
      - Plan of Training

2. Use the Plan of Training applicable to this trade.
   i. locate the hours for the trade
      - total in-school
      - total required for certification
   ii. locate the number of levels
   iii. locate the courses in each level
   iv. locate the hours required for progression to a Level II apprentice and the wage percentage of that level

AM1101 Math Essentials

Note: It is recommended that AM1101 be delivered in the first semester of the Pre-employment program.

Learning Outcomes:

- Demonstrate knowledge of essential numeracy skills.
- Demonstrate knowledge of mathematics as a critical element of the trade environment.
- Demonstrate knowledge of mathematical principles in trade problem solving situations.
- Demonstrate the ability to solve simple mathematical word problems.

Duration: 42 Hours

Pre-Requisite(s): None

Objectives and Content:

Wherever possible, the instructor is expected to use trade specific examples to reinforce the course objectives.

1. Describe whole number operations.
   i. read, write, count, round off, add, subtract, multiply and divide whole numbers

2. Describe the application of the order of operations in math problems.

3. Describe fraction and mixed number operations.
   i. read, write, add, subtract, multiply and divide fractions

4. Describe decimal operations.
   i. read, write, round off, add, subtract, multiply and divide decimals

5. Describe percent/decimal/fraction conversion and comparison.
   i. convert between fractions, decimals and percents

6. Identify percentage operations.
   i. read and write percentages
   ii. calculate base, rates and percentages

7. Identify ratio and proportion operations.
   i. use a ratio comparing two quantities with the same units
   ii. use a proportion comparing two ratios

8. Describe the use of the imperial measurement system in math problems.
   i. identify units of measurement
      - length
      - mass
      - area
      - volume
      - capacity

9. Describe the use of the metric measurement system in math problems.
   i. identify units of measurement
      - length
      - mass
      - area
      - volume
      - capacity

10. Identify angles, lines and geometric shapes.
    i. use a protractor to measure angles
    ii. determine whether an angle is right, acute or obtuse
    iii. identify parallel, perpendicular, horizontal and vertical lines
    iv. identify types of triangles, quadrilaterals, and 3-dimensional shapes

11. Describe estimation strategies.
    i. estimate a linear measure using a referent
    ii. estimate length, area and volume of objects in metric and imperial systems

12. Describe problem solving that involves linear measurement using instruments such as rulers or tape measures, in the metric and imperial systems.

Practical Requirements:

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

AM1211 Lather 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.
- Demonstration 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): AM1101

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.

CM2161 Communication Essentials

Learning Outcomes:

- Demonstrate knowledge of the importance of well-developed writing and oral communication skills in the workplace.
- Demonstrate knowledge of the principles of effective workplace writing.
- Demonstrate knowledge of the purpose of various types of workplace documentation and workplace meetings.
- Demonstrate knowledge of the importance of effective interpersonal skills in the workplace.
- Demonstrate knowledge of effective job search techniques.

Duration: 36 Hours

Pre-Requisite(s): None

Objectives and Content:

Wherever possible, the instructor is expected to use trade specific examples to reinforce the course objectives.

1. Define communications terminology used in the trade.

2. Identify the principles of effective workplace writing.
   i. grammar, punctuation, mechanics
   ii. sentence and paragraph construction
   iii. tone, language, and word choice
   iv. the writing process
      - planning
      - writing
      - editing/revising

3. Identify sources of information used to communicate in the workplace.
   i. regulations
   ii. codes
   iii. OH&S requirements
   iv. prints, drawings and specifications
   v. company and client documentation

4. Identify types and purposes of informal workplace documents.
   i. reports
      - incident
      - process
      - progress
   ii. common trade specific forms
   iii. primary and secondary methods of information gathering
   iv. accuracy and completeness in reports and forms

5. Demonstrate an understanding of interpersonal communications in the workplace.
   i. recognize group dynamics
   ii. contribute information and expertise
   iii. individual learning styles
      - audible
      - visual
      - experiential
      - theoretical
   iv. recognize respectful and open communication
   v. accept and provide feedback
   vi. interpret non-verbal communication cues
      - body language
      - signals

6. Demonstrate an understanding of effective oral communication skills.
   i. listening
      - receiving, understanding, remembering, reflecting, evaluating, paraphrasing, and responding
   ii. speaking
      - using clear and proper words
      - tone, style, and vocabulary
      - brevity
   iii. common workplace oral communication situations
      - introducing self and others
      - telephone conversations
      - tool box/safety talks
      - face-to-face conversations
      - communicating with co-workers, supervisors, clients, and other trades people

7. Identify common practices related to workplace meetings.
   i. meeting formats
   ii. meeting preparation
   iii. agendas and minutes
   iv. roles, responsibilities, and etiquette of meeting participants

8. Identify acceptable workplace use of communication technologies.
   i. cell / smart phone etiquette
   ii. voice mail
   iii. e-mail
   iv. texting / messaging through social media
   v. teleconferencing / videoconferencing for meetings and interviews
   vi. social networking
   vii. other emerging technologies

9. Demonstrate an understanding of effective job search techniques.
   i. employment trends, opportunities, and sources of employment
   ii. job ads and the importance of fitting qualifications to job requirements
   iii. resumes
      - characteristics of effective resumes
      - types of resumes
      - principles of resume formatting
   iv. effective cover letters
   v. job interview process
      - pre-interview preparation
      - interview conduct
      - post-interview follow up

Practical Requirements:

1. Write a well-developed, coherent, unified paragraph.

2. Complete a trade-related form.

3. Prepare an agenda for a toolbox safety talk.

4. Participate in a simulated oral workplace communication situation.

5. Prepare a resume.

SD1761 Workplace Essentials

Note: It is recommended that SD1761 be delivered in the second half of Pre-employment training.

Learning Outcomes:

- Demonstrate knowledge of workplace requirements in the areas of personal responsibility, unions, workers compensation, workers' rights, and human rights.
- Demonstrate knowledge of quality customer service.

Duration: 24 Hours

Pre-Requisite(s): None

Objectives and Content:

Wherever possible, the instructor is expected to use trade specific examples to reinforce the course objectives.

1. Identify personal responsibilities and attitudes that contribute to on-the-job success.
   i. Asking questions
   ii. Working safely
   iii. Accepting constructive feedback
   iv. Time management & punctuality
   v. Respect for authority
   vi. Stewardship of materials, tools and properties

2. Define unions and identify their role in the workplace.
   i. purpose of unions
   ii. common union structure
   iii. unions in this trade

3. Demonstrate an understanding of the Worker's Compensation process.
   i. aims, objectives, and benefits of the Workplace Health, Safety and Compensation Commission
   ii. role of the workers advisor
   iii. internal review process

4. Demonstrate an understanding of worker's rights.
   i. labour standards
   ii. regulations, including:
      - hours of work & overtime
      - termination of employment
      - minimum wages & allowable deductions
      - statutory holidays, vacation time, and vacation pay

5. Demonstrate an understanding of human rights issues.
   i. awareness of the Human Rights Code and the role of the Human Rights Commission
   ii. categories of discrimination and strategies for prevention
      - direct
      - systemic
      - adverse effect
   iii. types of discrimination
      - race
      - ethnic origin
      - colour
      - religion
      - age
      - gender identify
      - sexual orientation
      - marital status
      - family status
      - disability
      - criminal conviction that has been pardoned
   iv. conduct that constitutes harassment and discrimination
      - objectionable conduct
      - comments or displays made either on a one-time or continuous basis that demeans, belittles, or causes personal humiliation or embarrassment to the recipient
   v. the value of diversity in the workplace
      - culture
      - gender identify
      - sexual orientation

6. Demonstrate an understanding of quality customer service.
   - i. importance of quality service
   - ii. barriers to quality service
     - physical and physiological
     - cultural
     - technological
   - iii. customer needs & common methods for meeting them
   - iv. characteristics & importance of a positive attitude
   - v. interactions with challenging customers
   - vi. addressing complaints and resolve conflict

Practical Requirements:

None.

MC1062 Computer Essentials

Learning Outcomes:

- Demonstrate knowledge of desktop/laptop and mobile computers and their operation.
- Demonstrate knowledge of word processing and spreadsheet software, internet browsers and their applications.
- Demonstrate knowledge of e-mail applications and procedures.
- Demonstrate an awareness of security issues related to computers.
- Demonstrate an awareness of online learning using computers.

Duration: 15 Hours

Pre-Requisite(s): None

Objectives and Content:

When possible, the instructor is expected to use trade specific examples to reinforce the course objectives.

1. Identify computer types used in the workplace, and the characteristics of each.
   - i. desktop/laptop computers
   - ii. tablets
   - iii. smartphones

2. Identify common desktop and mobile operating systems.
   - i. Windows
   - ii. Mac OS
   - iii. iOS
   - iv. Android

3. Describe the use of Windows operating system software.
   - i. start and end a program
   - ii. use the help function
   - iii. use the find function
   - iv. maximize and minimize a window
   - v. open and scroll through multiple windows
   - vi. use the task bar
     - adjust desktop settings such as screen savers, screen resolution, and backgrounds
   - vii. shut down a computer

4. Identify the skills necessary to perform file management commands.
   i. create folders
   ii. copy files and folders
   iii. move files and folders
   iv. rename files and folders
   v. delete files and folders

5. Describe the use of word processing software to create documents.
   i. enter & edit text
   ii. indent and tab text
   iii. change text attributes
      - bold
      - underline
      - font
   iv. change layout format
      - margins
      - alignment
      - line spacing
   v. spell check and proofread
   vi. save, close & reopen a document
   vii. print document

6. Describe the use of spreadsheet software to create documents.
   i. enter data in cells
   ii. format data in cells
   iii. create formulas to add, subtract, multiply and divide
   iv. save, close & reopen a spreadsheet
   v. print spreadsheet

7. Describe the use of the internet in the workplace.
   i. web browsers
   ii. search engines
   iii. security issues
   iv. personal responsibility for internet use at work

8. Describe the role of e-mail.
   i. e-mail etiquette
      - grammar and punctuation
      - privacy issues when sharing and forwarding e-mail
      - work appropriate content
      - awareness of employer policies

ii. managing e-mail
- using folders
- deleting, forwarding, replying

iii. adding attachments to e-mail
iv. view e-mail attachments
v. printing e-mail

9. Describe computer use for online learning.
i. online training
ii. level exams
iii. study guides
iv. practice exams

Practical Requirements:

1. Create, save and print a document using word processing software.

2. Create, save and print a document using spreadsheet software.

3. Send and receive an e-mail with an attachment.

Level 2

LA2100 Blueprint Reading and Estimating I

Learning Outcomes:

- Demonstrate knowledge of the procedures used to perform quantity takeoffs for the construction of demountable wall systems.
- Demonstrate knowledge of procedures used to perform quantity takeoffs for the construction of drywall, exposed grid T-bar and metal lath ceilings.

Duration: 45 Hours

Pre-Requisite(s): Pre-employment

Objectives and Content:

1. Locate work area from plan.
2. Interpret floor plans.
3. Interpret ceiling plans.
4. Interpret blueprint symbols.
5. Identify wall types.
6. Identify ceiling types.
7. Interpret elevations.
8. Interpret specification and drawing requirements for systems.
9. Locate walls and openings.
10. Locate mechanical and electrical openings.
11. Identify and interpret details.

Practical Requirements:

1. Determine quantities for each system.
    i. track
    ii. studs
    iii. screws / fasteners
    iv. resilient channel
    v. 1 1/2 in. channel
    vi. drywall
    vii. battens
    viii. base
    ix. door / window frames
    x. trim
    xi. acoustical / thermal insulation and vapour barrier
    xii. acoustical caulking
    xiii. wall channel / moulding
    xiv. hangers
    xv. main tees
    xvi. U bar / cross tees
    xvii. tiles / metal lath
    xviii. hold down clips
    xix. specialty components

LA2110 Demountable Wall Systems

Learning Outcomes:

- Demonstrate knowledge of the procedures used to construct demountable partition systems in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to install sound and thermal insulation in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 45 Hours

Pre-Requisite(s): Pre-employment

Objectives and Content:

1. Describe types of demountable partition systems.

2. Interpret specification and drawing requirements for systems.

3. Identify procedures used to locate walls and openings.

4. Determine types of track for top and bottom of wall.

5. Identify techniques, procedures and tools to cut track.

6. Determine length and thickness of neoprene gaskets.

7. Identify location of gaskets on top and bottom track.

8. Identify fasteners.
   i. clips
   ii. wafer screws
   iii. plastic plugs
   iv. screws

9. Recognize types and sizes of steel studs.

10. Determine required distance between studs.

11. Determine fastening requirements of steel studs.

12. Identify types, sizes and location of openings.

13. Determine procedures and materials required to frame openings.

14. Determine the trades that must be consulted.
    i. electrical
    ii. mechanical

15. Identify types and sizes of vinyl board.

16. Determine techniques and procedures to cut wall panels.

17. Recognize different wall panel systems.
    i. clip-on
    ii. hang on
    iii. exposed battens
    iv. lock system
    v. non-progressive
    vi. progressive

18. Identify manufacturer's procedures for securing wall panels.

19. Recognize types of trim.
    i. ceiling trim
    ii. floor base
    iii. batten covers
    iv. batten corners
    v. two-piece trim systems

20. Identify types and grades of insulation.
    i. cellulose
    ii. fiberglass
    iii. styrofoam
    iv. ridged foam

21. Identify sound rating values of insulation.

22. Determine caulking techniques and compounds to be used.

23. Identify areas to be caulked.

Practical Requirements:

1. Identifies systems.
    i. assess completeness of available parts / components

2. Locates area and lays out walls and openings for installation.
   i. locate walls and openings on floor / ceiling
   ii. transfer marks from plan to floor and ceiling

3. Cuts bottom and top track to required length.

4. Installs gaskets / caulking on track.
   i. trim neoprene gaskets to fit

5. Fastens top and bottom track.
   i. apply required caulking

6. Cuts steel studs to required length.

7. Positions and fastens studs in place.
   i. layout location of steel stud on track
   ii. crimp / screw / tack weld steel studs

8. Frames openings.
   i. mark openings
   ii. measure and cut studs and track to size
   iii. install track and studs

9. Fills wall cavity with insulation.

10. Cuts wall panels.
    i. measure and mark wall panels
    ii. cut wall panels for width and height
    iii. cut panels to accommodate penetrations and protrusions

11. Fastens wall panels to studs using appropriate method.

12. Cuts metal door and window frames.

13. Installs door and window frames.
    i. plumb, level and square frames
    ii. fasten frames to steel stud

14. Measure and cut trim to specified sizes.

15. Position and secure trim.

LA2120 Advanced Ceiling Systems

Learning Outcomes:

- Demonstrate knowledge of the procedures used to install drywall ceiling complete with soffits, drops, expansion / control joints in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to install T-bar ceiling complete with soffits, drops, expansion / control joints in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 45 Hours

Pre-Requisite(s): Pre-employment

Objectives and Content:

1. Define and explain the purpose of expansion / control joints.

2. Identify types of expansion / control joints.

3. Determine optimum location of expansion / control joints.

4. Determine location of soffits and drops.

5. Determine framing procedures.

6. Explain the purpose of consulting with other trades.

Practical Requirements:

1. Establishes finished ceiling lines.
   i. determine location of benchmark
   ii. determine ceiling height from benchmark and mark required heights
   iii. chalk and measure lines

2. Fastens wall moulding to wall.
   i. select and apply fasteners
   ii. locate and secure wall mouldings

3. Establishes and squares layout lines.
   i. measure and apply squaring techniques
   ii. verify that layout lines meet specifications

4. Bends hangers.
   i. determine location of hangers
   ii. set up scaffold system according to job site condition
   iii. set up and operate laser alignment system
   iv. establish hanger height
   v. position hangers to specifications
   vi. measure and bend hangers
   vii. tie or twist hanger

5. Cuts carrying channels and furring channels.
   i. identify different types, sizes and gauges of carrying channels and furring
   ii. measure channels

6. Fastens carrying channel to hangers.
   i. determine manufacturer's procedures for attaching carrying channel
   ii. select types of ties
   iii. space channels
   iv. set channel on hanger and secure

7. Fastens furring channels to carrying channels at correct spacing.
   i. measure and position channels to maintain straight line
   ii. fasten wire ties to carrying channels

8. Frames all openings, drops and soffits.

9. Cuts backing.
   i. select backing materials
   ii. layout, measure and cut backing materials
   iii. determine and measure location of openings

10. Fastens backing.
   i. select sizes and types of fasteners

11. Lays out control and expansion joints.
   i. calculate number of joints required

12. Applies and fastens drywall.
   i. measure and cut drywall
   ii. align drywall to furring
   iii. select fasteners to meet installation specifications
   iv. inspect seating of fastener and adjust to meet job requirements

13. Applies and fastens trim.
    i. select trim to meet installation requirements
    ii. measure, position and cut trim for flat and curved surfaces
    iii. select fasteners to meet trim and work area requirements

14. Applies and fastens precast decorative wall and ceiling mouldings.
    i. position and match sections of decorative mouldings
    ii. select fasteners to meet moulding requirements
    iii. measure, level and fasten mouldings
    iv. refinish joints in decorative mouldings

15. Cuts main tees and cross tees.
    i. select types and sizes of tees to correspond with specifications and layout
    ii. measure and cut main and cross tees according to squared lines

16. Fastens main tee to hangers.
    i. verify positioning of hangers
    ii. wrap and secure hangers, including extra support around fixtures

17. Inserts cross tees to main tees.
    i. frames ceiling to accommodate lighting and mechanical fixtures
    ii. square ceiling
    iii. assemble ceiling systems

18. Cuts ceiling tiles for accessories and borders.

19. Installs ceiling tile.

20. Clips ceiling tiles for fire rated ceilings.

LA2130 Metal Cutting and Welding

Learning Outcomes:

- Demonstrate knowledge of the procedures used to demonstrate the elements of safety in welding operations.
- Demonstrate knowledge of the procedures used to select and use oxy-acetylene cutting equipment to torch-cut mild steel.
- Demonstrate knowledge of the procedures used to select and use shielded metal arc welding (SMAW) equipment to weld mild steel in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to select and use gas metal arc welding (GMAW) to weld mild steel in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 90 Hours

Pre-Requisite(s): Pre-employment

Objectives and Content:

1. Identify personal protection equipment.
   i. welding gloves
   ii. goggles
   iii. helmets
   iv. filter and cover lenses
   v. safety footwear
   vi. aprons
   vii. respiratory protection
   viii. hearing protection

2. Describe the requirements of personal conduct in the welding shop.

3. Define a safe working site and secure positioning of equipment.

4. State the importance of cylinder care.
   i. moving
   ii. lifting
   iii. securing
   iv. safety devices
   v. construction and operation of valves
   vi. methods of detecting leaks

5. Identify colour codes and hose connections.

6. Determine methods for testing and repairing equipment.

7. Identify the gases used and equipment.
   i. cylinders
   ii. valves
   iii. regulators
   iv. manifolds
   v. torches
   vi. tips
   vii. lighters

8. Explain procedures for material handling, lighting, and flame adjustment.

9. Explain oxy-acetylene cutting principles.

10. Define the components of non-fusion welding (brazing, soldering).
    i. base metal preparation
    ii. fluxes
    iii. filler rod alloys
    iv. tinning
    v. preheating
    vi. welding

11. Define ventilation requirements, toxic fumes, and arc radiation.

12. Identify the components of basic power sources.
    i. transformers
    ii. circuits
    iii. AC/DC
    iv. input/output
    v. polarity
    vi. amperage/duty cycle
    vii. cables and connectors
    viii. electrode holders
    ix. grounding

13. Describe processes involved in shielded metal arc welding (SMAW).
    i. selection of electrodes
    ii. current
    iii. polarity

14. Identify the parts and components of a gas metal arc welder (GMAW).

15. List specific wires for gas metal arc welding (GMAW) used in the production of various joint designs and thickness.

16. State the procedures for setup and operation of GMAW equipment.

Practical Requirements:

1. Set up oxy-acetylene cutting equipment.

2. Torch-cut freehand while cutting.
   i. holes
   ii. circles
   iii. bevels

3. Set up shielded metal arc welding (SMAW) equipment.

4. Use (SMAW) to weld 1/8 in. plate and construct joints in flat and horizontal positions.
   i. butt
   ii. lap
   iii. tee
   iv. corner

5. Weld fillet and lap joints in flat and horizontal positions using a variety of types and sizes of electrodes (SMAW).

6. Set up gas metal arc welding (GMAW) equipment.

7. Use (GMAW) to produce two tee and lap joints using 0.026 in. wire on a variety of metal thicknesses.

Level 3

LA2140 Blueprint Reading and Estimating II

Learning Outcomes:

- Demonstrate knowledge of procedures used to perform quantity takeoffs for the installation of vaulted, barrelled, and multiple elevation drywall ceilings.
- Demonstrate knowledge of the procedures used to perform quantity takeoffs for the installation of modular, metal pan and exterior / interior metal linear ceilings.
- Demonstrate knowledge of procedures used to perform quantity takeoffs for the construction of exterior prefabricated wall panels, fabric walls and acrylic finish systems.
- Demonstrate knowledge of procedures used to perform quantity takeoffs for the installation of access flooring systems.

Duration: 30 Hours

Pre-Requisite(s): Level 2

Objectives and Content:

1. Locate work area from plan.
2. Interpret floor plans.
3. Interpret ceiling plans.
4. Interpret blueprint symbols.
5. Identify wall types.
6. Identify ceiling types.
7. Identify flooring types.
8. Interpret elevations.
9. Interpret specification and drawing requirements for systems.
10. Locate walls and openings.

11. Locate mechanical and electrical openings.

12. Identify and interpret details.

Practical Requirements:

1. Determine quantities for each system.
   - i. track
   - ii. studs
   - iii. screws / fasteners / adhesive
   - iv. thermal insulation and vapour barrier
   - v. drywall interior / exterior
   - vi. door / window frames
   - vii. acoustical caulking
   - viii. wall channel/moulding
   - ix. hangers
   - x. 1 1/2 in. channels / main tees
   - xi. U-bar / cross tees
   - xii. tiles / metal lath / metal pan / metal linear / floor panels
   - xiii. hold down / T-bar clips
   - xiv. pedestals with heads
   - xv. stairs / ramps
   - xvi. specialty components

LA2150 Specialty Wall Systems

Learning Outcomes:

- Demonstrate knowledge of the procedures used to build and install exterior prefabricated wall panels in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to build fabric walls in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to install exterior insulation finish systems (EIFS) in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to prepare base materials for acrylic finishes in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 30 Hours

Pre-Requisite(s): Level 2

Objectives and Content:

1. Determine quantity of panels to be made.

2. Determine bench size required to meet job requirements.

3. Determine durability of templates.

4. Determine panel curing times.

5. Identify types of tracks and material characteristics.

6. Determine assembly techniques and procedures.

7. Identify work sheet and panel numbering system.

8. List types of building paper.

9. Determine application techniques and procedures for installing building paper.

10. Recognize types of systems.
    i. fabric track
    ii. build-in-place
    iii. acoustic track
    iv. prefabricated

11. Identify fabric types.

12. Identify positioning of electrical outlets and accessories in walls.

13. List types and explain physical characteristics.
    i. panels
    ii. tracks
    iii. corners

14. Determine installation procedures for fastening track.

15. Identify panel layout techniques.

16. Determine spacing required between panels and mitered corners.

17. Identify types and characteristics of fabrics.

18. Recognize fabric-cleaning compounds.

19. Determine measuring and cutting procedures for fabric materials.

20. Determine procedures and techniques for stretching fabric.

21. Determine specialized techniques to cut and fit fabric around electrical outlets, accessories and openings.

22. Determine procedures and techniques to hang prefabricated panels.

23. Identify types of EIFS.

24. Determine base installation techniques.

25. Identify attaching hardware.

26. Identify types of adhesive.

27. Identify manufacturers of acrylic finish systems.

28. Determine surface preparation techniques, procedures and requirements for acrylic finish systems.

29. Recognize types of sealants and application procedures.

30. Recognize types and sizes of foam to be used for acrylic finish systems.

31. Determine procedure to secure foam to a prepared surface.

32. Explain purposes, techniques and procedures for rasping uneven surfaces including corners and joints.

33. Recognize different types of metal trim.
    i. corner
    ii. expansion joint
    iii. edge

34. Identify location of metal trim.

35. Determine manufacturer's techniques and procedures to apply metal trim and plastic mesh.

Practical Requirements:

1. Identifies type of finish system, wall panel or fabric wall.
    i. interpret wall legends

2. Prepares surface.
    i. apply sealant
    ii. apply vapour barrier

3. Makes template.
    i. verify that template is 'true'

4. Cuts track / studs.

5. Assembles track / stud.
    i. align tracks
    ii. verify and adjust seating of fasteners

6. Frames all openings.
    i. cut and install frames on the opening
    ii. level, square and adjust frames

7. Cuts insulation / foam materials.
    i. measure insulation to meet panel dimensions

8. Installs insulation / foam material.

9. Rasps surfaces.
    i. even joints and corners

10. Cuts fabric.
    i. measure fabric to meet panel dimensions
    ii. clean fabric prior to installation

11. Stretches fabric over perimeter of track.
    i. stretch, cut and fit fabric over track according to its characteristics
    ii. fit and fasten fabric around electrical outlets, accessories and openings
    iii. select and install fabric fasteners

12. Hangs prefabricated baffles and wall panels.
    i. apply fastening systems and hang prefabricated panels

13. Install Exterior Insulation Finish System (EIFS).

14. Cuts exterior drywall.
    i. determine starting point for drywall application
    ii. cut drywall to size and cut openings

15. Applies exterior drywall to studs.

16. Applies building paper to exterior drywall.
    i. place paper on drywall with overlap as per specifications
    ii. apply adhesive to overlap paper

17. Applies trim / metal trim and plastic mesh.
    i. measure, position and cut trim for flat and curved surfaces
    ii. stretch plastic mesh and hold in place with roofing nails

18. Cuts metal lath / stucco wire.

19. Applies metal lath / stucco wire.

LA2160 Specialty Ceiling Systems

Learning Outcomes:

- Demonstrate knowledge of the procedures used to install vaulted, barrelled and multiple elevation drywall ceilings in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to install metal pan ceilings in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to install exterior metal linear ceilings in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 45 Hours

Pre-Requisite(s): Level 2

Objectives and Content:

None.

Practical Requirements:

1. Locates and affixes hangers.
   i. measure and cut hangers
   ii. install inserts
   iii. position and bend tops of hangers for insert

2. Establishes finished ceiling lines.
   i. determine ceiling height from benchmark and mark required height
   ii. set up and operate leveling tools
   iii. chalk and measure lines

3. Bends hangers.
   i. measure and bend hangers
   ii. set up and operate laser alignment system
   iii. tie or twist hanger

4. Cuts carrying channel and 7/8" furring channels.
   i. measure, cut and space channels

5. Fastens carrying channel to hangers.
   i. select types of ties
   ii. set channel on hanger and secure

6. Installs struts / kickers.

7. Ties furring channel to channel carriers at correct spacing.
   i. select types of ties
   ii. fasten wire ties to carrying channels
   iii. measure and position channels to maintain straight line

8. Frames all openings.
   i. cut and install frames for opening
   ii. level, square and adjust frames

9. Cuts backing.
   i. select backing materials
   ii. measure location of openings
   iii. layout, measure and cut backing materials

10. Fastens backing.

11. Applies and fastens drywall.
   i. measure and cut drywall
   ii. align drywall to furring
   iii. fasten to meet installation specifications
   iv. inspect seating of fastener and adjust to meet job requirements

12. Applies and fastens trim.
   i. measure, position and cut trim for flat and curved surfaces
   ii. select fasteners to meet trim and work area requirements

13. Applies and fastens wall mouldings / precast decorative wall and ceiling mouldings.
   i. match sections of decorative mouldings
   ii. measure, level and cut mouldings
   iii. locate and secure decorative mouldings by glue and screw method

14. Cuts main tees.
   i. arrange square layout lines
   ii. select types and sizes of tees to correspond with specifications and layout
   iii. measure and cut main tees according to squared lines

15. Measures and cuts metal linear beams.

16. Fastens main tees to hangers.

17. Inserts cross tees to main tees.
   i. frame lighting and mechanical layout into ceiling system

18. Cuts ceiling tiles / metal pans / filler strips for accessories.

19. Installs ceiling tiles / metal pans / filler strips.

20. Clips ceiling tiles for fire rate ceilings.

21. Cleans beams.

LA2170 Access Flooring

Learning Outcomes:

- Demonstrate knowledge of the procedures used to layout, level and install access flooring systems and accessories in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 15 Hours

Pre-Requisite(s): Level II

Objectives and Content:

1. Identify types of systems and related components to be installed.
2. Determine floor layout.
3. Determine types, dimensions and characteristics of tiles.
4. Determine formula for squaring room.
5. Identify types and characteristics of materials to which wall angles and mouldings are affixed.
6. Determine types of wall mouldings.
7. Determine types of fasteners and angle requirements.
8. Describe procedures for the attachment of pedestal bases.
9. Determine measuring and cutting techniques and procedures.
10. List types of tile fasteners.

Practical Requirements:

1. Establishes leveled finished floor height.
   i. set up and operate a laser alignment system
   ii. measure and chalk lines

2. Verifies tile size.

3. Measures floor pattern.
   i. measure and snap chalk lines

4. Positions and fastens pedestals.

5. Fastens angles to columns and walls.
   i. select materials to be installed
   ii. select and install fasteners

6. Fastens stabilizers to pedestals.
   i. clip / screw stabilizer into place

7. Cuts tiles.
   i. measure tiles to meet dimensions

8. Installs tiles.

LA2180 Radiation Shielding and Sound Proofing

Learning Outcomes:

- Demonstrate knowledge of the procedures used to build and install sound baffling in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to install lead shielding in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 30 Hours

Pre-Requisite(s): Level II

Objectives and Content:

1. Explain types of baffling systems.
   i. lead
   ii. drywall
   iii. rigid insulation

2. Determine purpose and structure of J-mould.

3. Determine dimensions of baffle.

4. Determine procedures to install J-mould.

5. Determine techniques and procedures to install baffling material.

6. Identify taping compound.

7. Explain taping procedures and techniques.

8. List types of acoustical caulking material.

9. Determine penetration-requiring caulking.

10. Determine techniques and procedures to apply caulking material.

11. Identify construction of sound curtains.
    i. lead
    ii. insulation

12. Explain methods of transferring air from one side of baffle to other.

13. List types and weights of lead shielding.

14. Identify the dangers when handling lead shielding.

15. Determine procedures and techniques for measuring and cutting lead shielding.

16. Determine physical characteristics of lead shielding.

17. Determine layout procedures for lead shielding.

18. Determine application procedures and techniques to apply lead shielding.

19. Identify types of fasteners and methods for fastening lead shielding to backing.

20. Determine techniques for protecting electrical outlets, accessories and openings.

21. Identify types and thicknesses of wall finishes.

22. Determine safe application procedures when covering lead.

Practical Requirements:

1. Identifies system to be used.

2. Measures, cuts and installs J-mould to ceiling.
   i. attach to main tees using screws

3. Measures and cuts lead, drywall, or fiberglass.

4. Fastens lead, drywall or fibreglass to J-mould.
   i. install and secure baffling material

5. Seals drywall, baffling or fiberglass.
   i. glue lead sheet together with contact cement at joints
   ii. apply compound and tape to joints
   iii. apply foil tape to insulation joints
   iv. crimp lead joints

6. Caulks penetrations.

7. Construct sound curtains in relation to air transfers.

8. Identifies weight of shielding.

9. Measures and cuts lead shielding to required sizes.

10. Affixes lead shielding to backing.
    i. select and install fasteners to lead shielding
    ii. shield electrical outlets, accessories and openings

11. Applies wall finish.
    i. measure and cut wallboard to size
    ii. apply fastening systems and wall finishes without damaging the covered lead shielding

LA2190 Metal Lath and Stucco Wire

Learning Outcomes:

- Demonstrate knowledge of the procedures used to install metal lath and stucco wire in compliance to codes and specifications.
- Demonstrate knowledge of the procedures used to perform related work through the safe use of relevant tools and equipment.

Duration: 15 Hours

Pre-Requisite(s): Level II

Objectives and Content:

1. Describe metal lath ceiling and wall installation procedures.
2. Identify types, finishes and weights of metal lath and stucco wire.
3. Explain purpose and determine location of seismic posts, guide wires and cross bracing.
4. Identify procedures to install seismic posts, guide wires and cross bracing.
5. Identify types of wire ties.
6. Explain the purpose of plaster stops.
7. Determine procedures to install plaster stops.
8. Explain purpose and types of plaster rings.
9. Identify location of plaster rings.
10. Determine positioning techniques for metal lath and stucco wire.
11. Determine gap requirements between metal lath strips.
12. Determine tying procedures for metal lath and stucco wire.

Practical Requirements:

1. Locates and affixes hangers.
   i. measures and cuts hangers
   ii. position and bend tops of hangers for inserts

2. Establishes ceiling line.
   i. transfer height from benchmarks
   ii. measure and chalk lines

3. Bends hangers.
   i. establish hanger height
   ii. mark hanger at bend
   iii. tie or twist hanger

4. Cuts carrying channels and furring channels.
   i. measure room size
   ii. measure and space channels

5. Fastens carrying channels to hangers.

6. Fastens seismic post from ceiling deck.
   i. securely fasten seismic posts to channels
   ii. install guide wires on channel to ceiling deck at 45 degrees

7. Ties furring channel to channel carrier.
   i. position furring channel
   ii. fasten wire ties to carrying channel at specified intervals

8. Frames openings.
   i. locate openings for mechanical and electrical devices
   ii. cut and measure channels
   iii. level, square and adjust frame
   iv. tie channels in place around opening

9. Ties plaster stops to furring channels.
   i. position plaster stops
   ii. tie plaster stop

10. Fastens plaster rings.

11. Measures and cuts metal lath / stucco wire.

12. Ties metal lath / stucco wire to furring channel.
    i. place ties at specified spacings on furring channels
    ii. positions lath / wire
    iii. secure lath edges at seams

13. Ties control joints over lath / wire.
    i. locate control joint from drawings
    ii. position control joints

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 Section14.

5.0 Apprenticeship Progression Schedule, Wage Rates and Advanced Training Criteria

Progression Schedule

Lather – 5400 Hours			
Apprenticeship Level and Wages			
Level	Wage Rate	Requirements for Progression to Next Level	Next Level
1	60%	▪ Completion of Pre-Employment / Level 1 training ▪ Registration as an apprentice ▪ Pass Level I exam* ▪ Minimum 1800 hours of combined relevant work experience and training	2nd Year
2	70%	▪ Completion of Level 2 training ▪ Pass Level 2 exam* ▪ Minimum 3600 hours of combined relevant work experience and training	3rd Year
3	90%	▪ Completion of Level 3 training ▪ Pass Level 3 exam* ▪ Minimum 5400 hours of combined relevant work experience and training ▪ Sign-off of all workplace skills in apprentice logbook ▪ Pass certification exam	Journeyperson Certification

Wage Rates

- Rates are percentages of the prevailing journeyperson'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.

Level Exams*

- This program may **not** currently contain level exams, in which case this requirement will be waived until such time as level exams are available.

Sprinkler Fitter – 7200 Hours		
Class Calls (after Apprenticeship Registration)		
Call Level	Requirements for Class Call	Hours Awarded for In-School Training
Direct Entry Level 1	▪ Minimum of 1800 hours of relevant work experience ▪ Prior Learning Assessment (PLA) at designated college (if applicable)	240
Level 2	▪ Minimum of 3000 hours of relevant work experience and training	240
Level 3	▪ Minimum of 5000 hours of relevant work experience and training	240
Class calls at Minimum Hours: ▪ 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 5400 hours.

   Or

   A total of 8100 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 journeyperson.
- 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, Skills and Labour.

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.