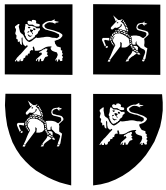

PROVINCIAL PLAN OF TRAINING

FOR THE

LATHER (Interior Systems Mechanic)

OCCUPATION

Document Status	Date Distributed	Mandatory Implementation Date	Comments
Original Version	July 2004	September 2005	

July 2004

Preface

This Provincial Plan of Training is based upon the 2002 edition of the National Occupational Analysis for the Lather occupation. It stipulates the curriculum content for the Lather apprenticeship training program and outlines each of the courses necessary for completion of apprenticeship.

While the course objectives have been logically listed within the relevant and appropriate course description, it is anticipated and acknowledged that certain learning objectives will relate to others and be taught in unison to make the application more relevant. For example, blueprint reading might best be covered with reference to ceiling, wall, or flooring systems. Mathematics would best be taught with practical situations relating to estimating or materials calculation.

The institutional blocks of training shall be as follows:

Block I	-	two x 15- week semesters
Block II	-	8 weeks
Block III	-	6 weeks

Acknowledgment

The Trade Advisory Committee and apprenticeship staff provided valuable input into the development of this Provincial Plan of Training. Their dedication to quality apprenticeship will benefit institutional training for apprentices in this trade.

Apprenticeship Plan of Training Evaluation Form

Thank you for your interest in the development and of this Plan of Training. Upon review of this document, please record your feedback in relation to the following items:

- course division and organization
- relevancy of the content
- errors or omissions
- other suggestions for improvement and consideration

Overall comments are to be entered on this evaluation form and specific changes are to be entered directly on the document in the relevant area(s). When all feedback has been recorded, return this evaluation form along with the revised Plan of Training to the Apprenticeship Office noted at the bottom of the page.

(PLEASE PRINT)

Trade: Lather (Interior Systems Mechanic)

Full Name: _____

Type of Position: (Trade Practitioner, Instructor, etc.): _____

Company: _____

Address: _____

Telephone: _____

Comments: (Use a separate sheet of paper if necessary)

_____

_____

_____

_____

_____

_____

_____

Return Evaluation Form and Plan of Training to:

Manager, Industrial Training
Division of Institutional and Industrial Education
Department of Education
P.O. Box 8700
St. John's, NF
A1B 4J6

Table of Contents

CONDITIONS GOVERNING APPRENTICESHIP TRAINING

1.0 GENERAL

The following general conditions will apply to all apprenticeship training programs approved by the Provincial Apprenticeship and Certification Board in accordance with the Apprenticeship Training and Certification Act. Where an occupation requires additional conditions, these will be noted in the specific plan of training for that occupation. In no case should there be a conflict between these conditions and the additional requirements specified in certain plans of training.

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 this 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 particular plans of training. Mature students, at the discretion of the Director of Institutional and Industrial Education, 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 Institutional and Industrial Education, credit towards the apprenticeship program may be awarded to an apprentice for previous work experience and/or training as validated through prior learning assessment.

2.4 A Registration for Apprenticeship form must be duly completed.

3.0 PROBATIONARY PERIOD

The probationary period for each memorandum of understanding will be six months. Within that period the memorandum may be terminated by either party upon giving the other party and the Provincial Apprenticeship and Certification Board one week notice in writing.

4.0 TERMINATION OF A MEMORANDUM OF UNDERSTANDING

After the probationary period referred to in Section 3.0 herein, the memorandum of understanding may be terminated by the Board by mutual consent of the parties thereto or cancelled by the Board for proper and sufficient cause in the opinion of the Board.

5.0 APPRENTICESHIP PROGRESSION SCHEDULE AND WAGE RATES

5.1 Progression Schedule

7200 Hour Programs	**Requirements for Progression**	**Progress To**
First Year Apprentice	Completion of entry level (Block 1) courses, plus relevant work experience totalling a minimum of 1800 hours *	Second Year
Second Year Apprentice	Completion of advanced level (Block 2) courses, plus relevant work experience totalling a minimum of 3600 hours	Third Year
Third Year Apprentice	Completion of advanced level (Block 3) courses, plus relevant work experience totalling a minimum of 5400 hours	Fourth Year
Fourth Year Apprentice	Completion of advanced level (Block 4) courses and (Block 5) *if applicable,* plus sign-off of workplace skills required for certification totalling a minimum of 7200 hours**	Write Certification Examination
5400 Hour Programs	**Requirements for Progression**	**Progress To**
First Year Apprentice	Completion of entry level (Block 1) courses, plus relevant work experience totalling a minimum of 1800 hours *	Second Year
Second Year Apprentice	Completion of advanced level (Block 2) courses, plus relevant work experience totalling a minimum of 3600 hours	Third Year
Third Year Apprentice	Completion of advanced level (Block 3) courses, plus sign-off of workplace skills required for certification totalling a minimum of 5400 hours	Write Certification Examination

4800 Hour Programs	Requirements for Progression	Progress To
First Year Apprentice	Completion of entry level courses (Block 1) courses, plus relevant work experience totalling a minimum of 1600 hours *	Second Year
Second Year Apprentice	Completion of advanced level (Block 2) courses, plus relevant work experience totalling a minimum of 3200 hours	Third Year
Third Year Apprentice	Completion of advanced level (Block 3) courses, plus sign-off of workplace skills required for certification totalling a minimum of 4800 hours	Write Certification Examination

* All direct entry apprentices must meet the **Requirements for Progression** either through Prior Learning Assessment and Recognition or course completion before advancing to the next year.

** Apprentices in a 7200 hour program which incorporates more than four blocks of training are considered fourth year apprentices pending completion of 100% course credits and workplace skills requirements.

5.2 For the duration of each Apprenticeship Training Period, the apprentice, who is not covered by a collective agreement, shall be paid a progressively increased schedule of wages which shall not be less than:

Program Duration	Wage Rates		Comments
7200 Hours	1st Year	55%	These wage rates are percentages of the prevailing journeyperson's wage rate in the place of employment of the apprentice. No apprentice shall be paid less than the wage rate established by the Labour Standards Act (1988), as now in force or as hereafter amended, or by other Order, as amended from time to time replacing the first mentioned Order.
	2nd Year	65%	
	3rd Year	75%	
	4th Year	90%	
5400 Hours and 4800 Hours	1st Year	55%	
	2nd Year	70%	
	3rd Year	85%	
4000 Hours			(Hairstylist Program) - The apprentice shall be paid no less than the minimum wage for hours worked and a commission agreed upon between the apprentice and the employer.

6.0 TOOLS

Apprentices shall be required to obtain hand tools as and when specified by the Board.

7.0 PERIODIC EXAMINATIONS AND EVALUATION

7.1 Every apprentice shall submit to such occupational tests and examinations as the Board shall direct. If after such occupational tests and examinations the apprentice is found to be making unsatisfactory progress, his/her rate of wage shall not be advanced as provided in Section 5 until his/her progress is satisfactory to the Director of Institutional and Industrial Education 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 Board 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. At the discretion of the instructor, the summative mark may be for completion of a theory examination or a combination of the theory examination and an assigned practical project.

8.0 GRANTING OF CERTIFICATES OF APPRENTICESHIP

Upon the successful completion of apprenticeship, the Board 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 Institutional and Industrial Education shall provide copies of the Registration for Apprenticeship form to all signatories to the document.

11.0 RATIO OF APPRENTICES TO JOURNEYPERSONS

The ratio of Apprentices to Journeypersons normally shall not exceed one apprentice to every one journeyperson employed. Exceptions for specific occupations may occur with the approval of the Provincial Apprenticeship and Certification Board.

12.0 RELATIONSHIP OF THE PLAN OF TRAINING TO A COLLECTIVE BARGAINING AGREEMENT

Collective agreements take precedence over the conditions outlined in the plan of training.

13.0 AMENDMENTS TO A PLAN OF APPRENTICESHIP TRAINING

A plan of training may be amended at any time by the Provincial Apprenticeship and Certification Board.

14.0 EMPLOYMENT, RE-EMPLOYMENT AND TRAINING REQUIREMENTS

14.1 The plan of training requires Apprentices to attend regularly their place of employment.

14.2 The plan of training requires Apprentices to regularly attend training programs for that occupation as prescribed by The Provincial Apprenticeship and Certification Board.

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 M.O.U.'s reinstated by the Provincial Apprenticeship and Certification Board 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 registering as a Trade Qualifier.

14.5 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 opportunity to be re-employed before another is hired.

14.6 The employer will permit each apprentice to attend regularly training programs as prescribed by the Provincial Apprenticeship and Certification Board.

14.7 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 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 Education within 30 days of the decision.

REQUIREMENTS FOR RED SEAL CERTIFICATION

1. Evidence that the required work experiences outlined in this plan of training have been obtained. This evidence must be in a format that clearly outlines 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 program.

3. A combination of training from an approved training program and suitable work experience totalling 5400 hours

   OR

   A total of 7200 hours of suitable work experience in the occupation accompanied by sign-off of required work competencies.

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

5. Payment of the appropriate examination fee.

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 captures, in a broad sense, these roles and the responsibilities that result from them.

The Apprentice

- to complete all required technical training courses as approved by the Provincial Apprenticeship and Certification Board.
- to find appropriate employment.
- to complete all required work experiences in combination with the required hours.
- to ensure that the work experiences are well documented.
- to approach apprenticeship training with an attitude and commitment that fosters the qualities necessary for a successful career as a qualified journeyperson.
- to obtain the required hand tools as specified by the Board for each period of training of the apprenticeship program.

The Employer

- to provide high quality work experiences in an environment that is conducive to learning.
- to remunerate apprentices as set out in this Plan of Training or Collective Agreements.
- to provide feedback to Training Institutions, Industrial Training Division and Apprentices in an effort to establish a process of continuous quality improvement.
- where appropriate, to release apprentices for the purpose of returning to a training institution to complete the necessary technical courses.
- to ensure that work experiences of the apprentices are documented.

The Training Institution

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

The Industrial Training Division

- to establish and maintain program advisory committees under the direction of the Provincial Apprenticeship and Certification Board.
- to promote apprenticeship training as a viable career option to prospective apprentices and other appropriate persons involved, such as career guidance counsellors, teachers, parents, etc.
- to establish and maintain a protocol with training institutions, employers and other appropriate stakeholders to ensure the quality of apprenticeship training programs.
- to ensure that all apprentices are appropriately registered and records are maintained as required.
- to schedule all necessary technical training periods for apprentices to complete requirements for certification.
- to administer provincial/interprovincial examinations.

The Provincial Apprenticeship and Certification Board

- to set policies to ensure that the provisions of the Apprenticeship Training and Certification Act are implemented.
- to ensure that advisory and examination committees are established and maintained.
- to accredit institutions to deliver apprenticeship training programs.
- to designate occupations for apprenticeship training and/or certification.

Program Outcomes

Task 1	Interprets occupational documentation
Task 2	Organizes work
Task 3	Lays out work
Task 4	Uses and maintains tools and equipment
Task 5	Erects non-load-bearing steel studs
Task 6	Erects load-bearing steel studs
Task 7	Installs access flooring systems
Task 8	Installs wall systems
Task 9	Installs ceiling systems
Task 10	Installs sound barriers and lead shielding
Task 11	Finishes drywall
Task 12	Installs membranes
Task 13	Installs exterior finishes

PROGRAM CONTENT

LATHER					
NL Course No.	**Atlantic Course No.**	**Course Name**	**Suggested Hours**	**Prerequisites**	**Page No.**
TS-1510		Occupational Health & Safety	6		16
TS-1520		WHIMS	6		19
TS-1530		First Aid	14		22
AJ-1120	AJ-1120	Rigging	30	TS-1510	23
AJ-1150	AJ-1150	Basic Drawing and Sketching	75		25
AJ-2410	AJ-2410	Scaffolds	45	LA-1140; LA-1110	29
LA-1100	IS-1011	Confined Space Awareness	6		31
LA-1110	IS-1022	Fall Protection Awareness	6		33
LA-1120	IS-1033	Power Line Hazards Awareness	4		35
LA-1130	IS-1044	Workplace Harassment	4		37
LA-1140	IS-1110	Interior Systems Fundamentals	120	TS-1530	39
LA-1150	IS-1220	Metal Wall Systems	105	LA-1140	42
LA-1160	IS-1400	Ceiling Systems	105	LA-1140	47
MA-1060	MA-1000	Basic Math	60		52
CM-2150		Workplace Communications	45		54
MR-1220		Customer Service	30		56
SP-2330		Quality Assurance/Quality Control	30		58
MC-1050		Introduction to Computers	30		60
SD-1700		Workplace Skills	30		64
SD-1710		Job Search Techniques	15		66
SD-1720		Entrepreneurial Awareness	15		68
LA-2100	IS-2150	Blueprint Reading and Estimating I	45	AJ-1150; LA-1150; LA-1160	71
LA-2110	IS-2220	Demountable Wall Systems	45	LA-1150	73
LA-2120	IS-2400	Advanced Ceiling Systems	45	LA-1160	76
LA-2130	IS-2800	Metal Cutting and Welding	90	LA-1140	79

LATHER					
NL Course No.	**Atlantic Course No.**	**Course Name**	**Suggested Hours**	**Prerequisites**	**Page No.**
LA-2140	IS-3150	Blueprint Reading and Estimating II	30	LA-2100; LA-2110; LA-2120	82
LA-2150	IS-3220	Specialty Wall Systems	30	LA-2110	84
LA-2160	IS-3400	Specialty Ceiling Systems	45	LA-2120	88
LA-2170	IS-3550	Access Flooring	15	LA-1140	91
LA-2180	IS-3750	Radiation Shielding and Sound Proofing	30	LA-2110	93
LA-2190	IS-3900	Metal Lath and Stucco Wire	15	LA-2110; LA-2120	96
Total Hours			**1169**		

PROGRAM STRUCTURE

Entry Level Courses					
NL Course No.	**Atlantic Course No.**	**Course Name**	**Suggested Hours**	**Prerequisites**	**Page No.**
TS-1510		Occupational Health & Safety	6		16
TS-1520		WHIMS	6		19
TS-1530		First Aid	14		22
AJ-1120	AJ-1120	Rigging	30	TS-1510	23
AJ-1150	AJ-1150	Basic Drawing and Sketching	75		25
AJ-2410	AJ-2410	Scaffolds	45	LA-1140; LA-1110	29
LA-1100	IS-1011	Confined Space Awareness	6		31
LA-1110	IS-1022	Fall Protection Awareness	6		33
LA-1120	IS-1033	Power Line Hazards Awareness	4		35
LA-1130	IS-1044	Workplace Harassment	4		37
LA-1140	IS-1110	Interior Systems Fundamentals	120	TS-1530	39
LA-1150	IS-1220	Metal Wall Systems	105	LA-1140	42

Entry Level Courses					
NL Course No.	**Atlantic Course No.**	**Course Name**	**Suggested Hours**	**Prerequisites**	**Page No.**
LA-1160	IS 1400	Ceiling Systems	105	LA-1140	47
MA-1060	MA-1000	Basic Math	60		52
CM-2150		Workplace Communications	45		54
MR-1220		Customer Service	30		56
SP-2330		Quality Assurance/Quality Control	30		58
MC-1050		Introduction to Computers	30		60
SD-1700		Workplace Skills	30		64
SD-1710		Job Search Techniques	15		66
SD-1720		Entrepreneurial Awareness	15		68
Total Hours			**779**		

REQUIRED WORK EXPERIENCE

Block #2					
NL Course No.	**Atlantic Course No.**	**Course Name**	**Suggested Hours**	**Prerequisites**	**Page No.**
LA-2100	IS-2150	Blueprint Reading and Estimating I	45	AJ-1150; LA-1150; LA-1160	71
LA-2110	IS-2220	Demountable Wall Systems	45	LA-1150	73
LA-2120	IS-2400	Advanced Ceiling Systems	45	LA-1160	76
LA-2130	IS-2800	Metal Cutting and Welding	90	LA-1140	79
Total Hours			**225**		

REQUIRED WORK EXPERIENCE

Block #3					
NL Course No.	**Atlantic Course No.**	**Course Name**	**Suggested Hours**	**Prerequisites**	**Page No.**
LA-2140	IS-3150	Blueprint Reading and Estimating II	30	LA-2100; LA-2110; LA-2120	82
LA-2150	IS-3220	Specialty Wall Systems	30	LA-2110	84
LA-2160	IS-3400	Specialty Ceiling Systems	45	LA-2120	88
LA-2170	IS-3550	Access Flooring	15	LA-1140	91
LA-2180	IS-3750	Radiation Shielding and Sound Proofing	30	LA-2110	93
LA-2190	IS-3900	Metal Lath and Stucco Wire	15	LA-2110; LA-2120	96
Total Hours			**165**		

BLOCK I

TS-1510 OCCUPATIONAL HEALTH AND SAFETY

Description:

This course is designed to give participants the knowledge and skills necessary to interpret the Occupational Health and Safety Act, laws and regulations; understand the designated responsibilities within the laws and regulations; the right to refuse dangerous work; and the importance of reporting accidents.

Course Outcomes:

Upon successful completion of this unit, the apprentice will be able to:
- prevent accidents and illnesses
- improve health and safety conditions in the workplace

Theory:

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 & 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 Industrial 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

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.

TS-1520 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

Description:

This course is designed to give participants the knowledge and skills necessary to define WHMIS, examine hazard identification and ingredient disclosure, explain labeling and other forms of warning, and introduce material safety data sheets (MSDS).

Course Outcomes:

Upon successful completion of this course, the apprentice will be able to:

- interpret and apply the Workplace Hazardous Materials Information System (WHMIS) Regulation under the Occupational Health & Safety Act.

Required Knowledge and Skills:

1. Define WHMIS safety
   - i) Rational and key elements
   - ii) History and development of WHMIS
   - 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 form 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory** in Newfoundland, but are provided as suggestions for Nova Scotia, Prince Edward Island and New Brunswick.

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.

SUGGESTED RESOURCES:

1. WHMIS Regulation
2. Sample MSDS sheets

TS-1530 FIRST AID

Description:

This course is designed to give the apprentice the ability to recognize situations requiring emergency action and to make appropriate decisions concerning first aid.

Complete a **St. John Ambulance** Standard First Aid Certificate course.

AJ-1120 RIGGING

Description:

This general studies course requires the use of rigging equipment, block and tackle, and safety equipment. It involves installing, testing and maintaining rigging; and tying knots and splicing rope. It includes information on safety requirements, types of ropes, types of knots and slings.

Outcomes:

Upon successful completion of this course the apprentice will be able to:
- use and maintain rigging equipment

Pre requisites: TS-1510

Course Duration: 30 hrs.

Theory:

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:

1. Use and maintain rigging equipment
   a. Recognize and use International Hand Signals
   b. Calculate Safe Working Loads

c. Interpret occupational health and safety regulations
d. 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
e. Demonstrate proper use of knots
f. Use lifting attachments such as eye bolts and lifting lugs, beam clamps and crawlers, snatch blocks, spreader bars, shackles and screw jacks
g. Transfer loads using lifting equipment
h. Use hoisting equipment
i. Direct/assist in loading/unloading masonry units from trucks
j. Direct/assist hoisting masonry units to work stations

2. Use and maintain overhead cranes [Theory]
   a. Safely and effectively use overhead cranes
   b. Use proper lifting procedures
   c. Use hoisting and/or crane signals
   d. Use plate grab and/or slings

AJ-1150 BASIC DRAWING AND SKETCHING

Description:

This drafting course requires the use of basic drawings, specifications, bills of materials, drawing instruments and facilities. It involves reading basic drawings and diagrams, sketching, and interpretation of specifications. It includes information on sketching techniques and types of drawings.

Outcomes:

Upon successful completion of this course the apprentice will be able to:
- read and interpret blueprint drawings
- sketch views

Pre requisites: None

Course Duration: 75 hrs.

Theory:

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:

1. Construct geometric shapes and lines
    a. Draw lines to scale
    b. Scale lines
    c. Divide lines into equal parts
    d. Bisect lines
    e. Construct angles
    f. Bisect angles
    g. Construct concave and convex curves
    h. Construct circles, arcs, tangents, ellipses, polygons, etc.

2. Sketch orthographic projections
    a. Visualize object
    b. Select views
    c. Layout sketch
    d. Sketch projection

e. Dimension sketch
f. Make notations

3. Sketch sectional views
   a. Locate section
   b. Select type of view
   c. Determine scale
   d. Sketch view
   e. Dimension sketch
   f. Make notations

4. Sketch primary auxiliary views
   a. Visualize the view
   b. Layout the sketch
   c. Sketch view
   d. Dimension sketch
   e. Make notations

5. Identify information from blueprints and drawings
   a. Visualize views and projections
   b. Identify information from schematic diagrams, assembly drawings, views, feeder maps, etc.
   c. Identify sequence of fabrication according to blueprint
   d. Identify cut of materials from sketches
   e. Interpret horizontal, vertical, curved, inclined lines, fillets, and radii on working drawings
   f. Identify dimensions of holes, cylinders, circles, angles and arcs

6. Interpret mechanical drawings
   a. Interpret and apply required information from mechanical drawings

7. Interpret electrical drawings
   a. Interpret and apply required information from electrical drawings

8. Read architectural and structural drawings
   a. Read plot plan, foundation plans, floor plans, details, elevations and sections

9. Interpret specifications
   a. Interpret manufacturing specifications
   b. Identify tolerance specifications
   c. Interpret specifications (company standards books)

10. Uses codes, regulations and standards
    a. Find and interpret specific requirements in the National Building Code

b. Find and interpret specific requirements in the National Energy Code
c. Find and interpret specific requirements in the Canadian Standards Association standards
d. Find and interpret specific requirements in the Buildings Accessibility Act and Regulations
e. Find and interpret specific requirements in the Canadian Wood Council Span Book
f. Interpret and comply with national, provincial and municipal codes and regulations (employment, health, environment, security regulations and standards

11. Performs quantity takeoffs
    a. Interpret the rules for performing quantity takeoffs
    b. Use scale rules and calculators
    c. Identify information from bill of materials
    d. Schedule materials availability to meet project requirements

AJ-2410 SCAFFOLDS

Description:

This course in scaffolding requires the use of tools and equipment, materials and supplies and suitable facilities. It involves interpreting specifications and blueprints; layout, construction and installation of wood scaffolds; and clean up. It includes information on construction techniques and safety requirements for wood scaffolds.

Outcomes:

Upon successful completion of this course the apprentice will be able to:
- construct wood scaffolds with respect to various codes and regulations
- practice safety in potentially harmful situations
- show an appreciation for conservation and environmental issues
- identify, select, estimate and conserve building materials
- ensure energy efficient building construction

Pre requisites: LA-1140; LA-1110

Course Duration: 45 hrs.

Theory:

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)
   a. putlogs
   b. braces
   c. ties
   d. planking
   e. footboards
   f. scaffold brackets

8. Describe special problems of rolling and suspended scaffolding

Practical:

1. Build common type of wood scaffolds
   a. Build wood scaffold ladder s according to safety regulations
   b. Dismantle wood scaffolds
   c. Design scaffolds for economy of time and material
   d. Construct a roof bracket
   e. Construct a roof scaffold for a chimney

2. Use steel scaffolding
   a. Erect and dismantle standard steel scaffolds for at least three lifts
   b. Erect, dismantle and maintain rolling scaffolds
   c. Erect, dismantle and maintain stages and bleachers
   d. Describe adjustable tower scaffolding and advantages
   e. Use machine scaffolds (scissor lifts and zooms)
   f. Inspect scaffolding before using

3. Build special scaffolds
   a. Explain the necessity and use of swing staging
   b. Assemble and erect various special scaffolds such as outrigger and suspended types

LA-1100 CONFINED SPACE AWARENESS

Description:

This course is designed to give participants the knowledge to properly prepare themselves to work in confined spaces

Course Outcomes:

Upon successful completion of this course, the apprentice will be able to explain the procedures to:

- properly prepare a confined space for entry
- enter a confined space safely
- perform their duties as an attendant
- deal with an emergency

Pre requisites: None

Course Duration: 6 hrs.

Theory:

1. Recognize confined space hazards
   a. Define a confined space
   b. Identify types of hazards in confined spaces

2. Identify proper controls for confined space entries
   a. List steps to protect yourself from confined space hazards
   b. Define an entry permit
   c. List information included on a confined space entry permit
   d. Explain what action must be taken if a permit expires before work is completed

3. Preparing for confined space entry
   a. State the first step in entry preparation
   b. List examples of proper entry preparation
   c. List types of personal protective equipment used in confined spaces

4. Determine testing techniques for confined spaces
   a. List the necessary steps of air testing
   b. State the correct order for testing gases

5. Identify confined space entry procedures
   a. Identify the attendants responsibilities
   b. Identify the area where the attendant should be stationed

c. Identify the entrants responsibilities

6. Explain confined space rescue techniques
   a. List three types of confined space rescues
   b. Explain non-entry rescue
   c. List the requirements of an on-site rescue team

LA-1110 FALL PROTECTION AWARENESS

Description:

This course is designed to give participants the required knowledge for the safe and efficient use and care of fall protection equipment so that they may work safely when **"off the ground"** or in areas where fall hazards exist.

Course Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- identify various types of fall protection and their components
- explain the proper use of fall protection equipment and personal fall arrest systems
- identify fall hazards in the workplace and take corrective measures to eliminate them through the selection of appropriate fall protection systems

Pre requisites: None

Course Duration: 6 hrs.

Theory:

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
   a. Permanent and temporary guard rails
   b. Personal travel restrict systems

6. Describe the basic function of a fall arrest system
   a. Identify the components of a personal fall arrest system
      i. Full body harness
      ii. Shock absorbers
      iii. Lanyards
      iv. Lifelines
         - vertical
         - horizontal
      v. Rope grabs
      vi. Anchors

b. Explain how to put on a full body harness

7. Describe the basic function of a work positioning system
   a. 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.
   a. List components of equipment that require inspection

LA-1120 POWER LINE HAZARDS AWARENESS

Description:

This course is designed to give participants a basic knowledge of electrical hazards, accident prevention and government regulation so that they can work safely in areas were power line hazards exist

Course Outcomes:

Upon successful completion of this course, the participant will be able to:
- identify potential power line hazards
- identify Occupational Health and Safety Regulation governing power line hazards
- determine safe working procedures when working near electricity

Pre requisites: None

Course Duration: 4 hrs.

Theory:

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 a insulator

5. Define the following terms
   a. Voltage
   b. Ampere
   c. Resistance
   d. Pressure

6. Explain “the path of least resistance”

7. State ohm’s law

8. Explain voltage vs current

9. Explain ratio comparison (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 there responsibilities are when operating cranes or boom trucks around power lines

15. Explain a flash over

Practical:

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

LA-1130 WORKPLACE HARASSMENT

Description:

This course is designed to raise the participants awareness to the issues of workplace harassment by showing the effects of harassment on co-workers and the overall working environment of the company.

Course Outcomes:

Upon successful completion of this course, the participants will be able to:
- explain what constitutes workplace harassment
- determine methods to prevent workplace harassment
- describe procedures for the investigation of complaints

Pre requisites: None

Course Duration: 4 hrs.

Theory:

1. Define harassment

2. Identify types of behaviours that can be considered harassment:
   a. Verbal
   b. Visual
   c. Physical
   d. Sexual
      i. Quid pro quo
      ii. Hostile environment

3. Determine employee responsibilities to eliminate workplace harassment with respect to:
   a. Behaviour
   b. Sensitivity
   c. Observations
   d. Responding
   e. Reporting

4. Determine management responsibilities regarding workplace harassment with respect to:
   a. Writing policies, which include:
      i. stating the organizations policy statement
      ii. identifying legislated agencies governing workplace harassment
         - Occupational Health and Safety

- Human Rights Commission

iii. identifying who it applies to
iv. identifying all business locations
v. determining training requirements
vi. explaining the complaint procedure

b. Conducting inspections, which include:
   i. identifying who conducts the inspections
   ii. determining when they are carried out
   iii. identifying where they are conducted
   iv. determining what is to be inspected
   v. communicating findings

c. Investigating complaints, which include:
   i. identifying sources of information
   ii. conducting interviews
   iii. analysing collected information
   iv. determining appropriate action
   v. communicating findings to the accuser and alleged harasser

LA-1140 INTERIOR SYSTEMS FUNDAMENTALS

Description:

This course in Interior Systems Fundamentals requires the use of basic tools and equipment and suitable facilities. It involves selecting and using the correct tools and materials to complete specific work assignments.

Course Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- perform work through the safe use of relevant tools and equipment
- work safely in potentially harmful situations.
- identify, select and estimate building materials.
- show their appreciation for conservation and environmental issues.

Prerequisites: TS 1530

Course Duration: 120 hrs.

Theory:

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 (linear feet, board feet, square feet

5. List specific tools used for various work situations.

Practical:

1. **Uses and maintains hand tools**
    a. Square an undressed board
    b. Crosscut wood using handsaws
    c. Make cuts at different angles using metal cutting tools
    d. Check boards for straightness
    e. Select material for a particular project
    f. Grind a plane iron and a wood chisel
    g. Dress a grinding wheel using a wheel dresses
    h. Sharpen auger bit sets
        i. flat bits

ii. twist drill bits

i. Use measuring tools
j. Use hammering techniques
k. Test a spirit level
l. Use abrading tools (sandpaper, rasps)
m. Use dismantling tools (nail pullers, wrecking bars)
n. Cut metal studs and tracks
o. Bend hanger wires

2. Uses and maintains portable power tools

a. Uses screw guns
b. Uses electric shears
c. Use portable saws (circular, reciprocating, mitre, cut-off, saber)
d. Use portable power drills
e. Use portable abrading tools (sanders, grinders)
f. Use portable planing tools
g. Use routers and laminate trimmers
h. 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 maintain stationary power tools

a. Cross cut using a table saw, a radial arm saw and a miter saw
b. Rip using a radial arm saw, table saw and band saw
c. Cut bevels or chamfers using a radial arm saw, a table saw, a jointer and a shaper
d. Cut miters using a radial arm saw, a table saw and a miter saw
e. Cut angles and compound angles using a radial arm saw, a table saw and a band saw
f. Cut dados using a table saw, a radial arm saw and a shaper
g. Rabbet using a table saw, a radial arm saw, and a jointer
h. Notch using a table saw and a radial arm saw
i. Use stationary surfacing machines
j. Use stationary drilling and boring tools
k. Use stationary abrading tools

4. Uses hand tools to construct

a. Saw horse
b. Tool box
c. Oil stone case
d. Jigs

5. Uses explosive actuated tools

a. Select the proper tool for a specific use
b. Follow Occupational Health and Safety Regulations

c. Choose the correct shot and fastener for the job
d. Apply safety practices while using explosive actuated tools
e. Fasten construction material to masonry and steel
f. Maintain and clean explosive actuated tools

LA-1150 METAL WALL SYSTEMS

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills for framing steel stud walls, staggered stud walls, shaft walls and chase walls. Also included is information and prescribes practical exercises to develop knowledge and skills for installing vapour barriers, thermal insulation and installing drywall to various metal wall systems. As well as the use of relevant tools and equipment, this course also requires the ability to read specifications and drawings.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- frame various metal wall systems in compliance to codes and specifications
- install vapour barriers and thermal insulation in compliance to codes and specifications
- install drywall on metal wall systems in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisite: LA-1140

Course Duration: 105 hrs.

Theory:

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, such as steel, concrete, wood, glass, aluminum

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

13. Determine procedures and angles to cut door frames, 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 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, such as surface mounted or 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: cellulose, fibreglass, Styrofoam and ridged foam

32. Identify “R” values of insulation

33. Determine manufacturers' 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 such as friction-fit, adhesive, stapling or mechanical in relation to materials

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, such as humidity and temperature on drywall materials and installation techniques

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 being 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 manufacturers' recommended procedures for installing fire rated drywall

50. Identify manufacturers' 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 such as J-mould, corner bead, baseboard, 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:

1. Locates exterior/interior walls.
   a. Locate grid symbols on plans
   b. Locate common grid lines
   c. Transfer tape readings to floor

2. Chalk lines.
   a. Locate floor markings
   b. Secure chalk line to floor markings
   c. Snap chalk line
   d. Set up, position and activate laser alignment system

3. Establishes location of openings.
   a. Find architectural references
   b. Transfer blueprint readings to chalk lines by measuring
   c. Measure off and mark location of openings

4. Measure and cut tracks and studs to required sizes

5. Applies caulking/foam tape to tracks.
   a. Select caulking/foam tape
   b. Apply caulking/foam tape to track
   c. Recognize and correct irregular application

6. Fastens top and bottom tracks.
   a. Installs track to wood surfaces

7. Sets hollow metal door frames.
   a. Measures and cut frames to size
   b. Level, square, plumb and shim door frames

8. Erects and fastens metal studs.
   a. Select and fasten metal studs to meet material requirements
   b. Install door/window headers

9. Frames columns and bulkheads.

10. Frames openings

11. Inserts reinforcing channels.
   a. Measure and cut reinforcing channels

b. Installs channels in irregular ceilings or protrusions

12. Layout, measure and cut backing materials

13. Fastens backing.
    a. 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
    a. Read and interpret a hydrometer for humidity.

16. Installs J-tracks.
    a. 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
    a. Seal joints and wall penetrations according to provincial/municipal or national building codes
    b. Apply caulking
    c. Recognize and correct irregular application

22. Select and cut drywall to size

23. Marks location of studs.
    a. Transfer measurements of studs to finished drywall surface

24. Applies and fastens drywall.
    a. Align drywall to studs
    b. Inspect seating of fastener and adjust to meet job requirements

25. Installs layers of drywall with staggered joints.
    a. Fasten and install drywall according to fire rating requirements
    b. Measure and cut drywall to ensure staggering of joints and fasteners

26. Applies and fastens trim.
    a. Measure, position and cut trim for flat and curved surfaces
    b. Select fasteners to meet trim and work area requirements

LA-1160 CEILING SYSTEMS

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills for installing drywall contact ceilings, drywall suspended ceilings, T-bar ceilings and metal linear ceilings. As well as the use of relevant tools and equipment, this course also requires the ability to read specifications and drawings.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- install various ceiling systems in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisite: LA-1140

Course Duration: 105 hrs.

Theory:

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, such as surface mounted and 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, such as wood, cement and block where mouldings are to be applied

20. Explain installation requirements of mechanical and electrical ceiling fixtures such as sprinklers, air diffusers and 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:

1. Establishes finished ceiling lines
    a. Determine location of benchmark
    b. Determine ceiling height from bench-mark and mark required height
    c. Measure and chalk lines

2. Fastens wall moulding to wall
    a. Select and apply fasteners
    b. Locate and secure wall mouldings

3. Establishes and squares layout lines
    a. Measure and apply squaring techniques
    b. Verify layout lines meet specifications

4. Bends hangers
    a. Determine location of hangers
    b. Set up scaffold system according to job site condition
    c. Set up and operate laser alignment system
    d. Establish hanger height
    e. Position hangers to specifications
    f. Measure and bend hangers
    g. Tie and twist hanger

5. Cuts carrying channels and furring channels
    a. Identify different types, sizes and gauges of carrying channels and furring
    b. Measure channels

6. Fastens carrying channel to hangers
    a. Determine manufacturers' procedures for attaching carrying channel
    b. Select types of ties
    c. Space channels
    d. Set channel on hanger and secure

7. Fastens furring channels to carrying channels at correct spacing
    a. Measure and position channels to maintain straight line
    b. Fasten wire ties to carrying channels

8. Frames all openings
    a. Cut and install frames for opening
    b. Level, square and adjust frames

9. Cuts backing
    a. Select backing materials
    b. Layout, measure and cut backing materials
    c. Determine and measure location of openings

10. Fastens backing
    a. Select sizes and types of fasteners

11. Applies and fastens drywall
    a. Measure and cut drywall
    b. Align drywall to furring
    c. Select fasteners to meet installation specifications
    d. Inspect seating of fastener and adjust to meet job requirements

12. Applies and fastens trim
    a. Select trim to meet installation requirements
    b. Measure, position and cut trim for flat and curved surfaces
    c. Select fasteners to meet trim and work area requirements

13. Applies and fastens precast decorative wall and ceiling mouldings
    a. Locate and match sections of decorative mouldings
    b. Select fasteners to meet mouldings requirements
    c. Measure, level and fasten mouldings
    d. Secure decorative mouldings by glue and screw method
    e. Refinish joints in decorative mouldings

14. Cuts main tees
    a. Select types and sizes of tees to correspond with specifications and layout
    b. Measure and cut main tees according to squared lines

15. Fastens main tee to hangers
    a. Verify positioning of hangers
    b. Wrap and secure hangers, including extra support around fixtures

16. Inserts cross tees to main tees
    a. Frame ceilings to accommodate lighting and mechanical fixtures
    b. Square ceiling
    c. 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

MA-1060 BASIC MATH

Description:

This course in Basic Math requires knowledge of general mathematical concepts and processes to enable trades persons to function in the institutional setting by developing numeracy skills required for technical courses. This math course should also provide a foundation for experiential learning through a knowledge of math relating to on-the-job skills and practices.

Course Outcomes:

1. To develop numeracy skills and knowledge required for institutional and on-the-job learning.

2. To develop the capability to apply mathematical concepts in the performance of trade practices.

3. To develop an appreciation for mathematics as a critical element of the learning environment

4. To use mathematical principles accurately for the purposes of problem solving, job and materials estimation, measurement, calculation, system conversion, diagram interpretation and scale conversions, formulae calculations, and geometric applications.

Prerequisites:

Course Duration: 60 hrs.

Course Objectives (Knowledge):

1. Define and calculate using whole number operations

2. Define and demonstrate use of correct orders of operations

3. Demonstrate examples of operations with fractions and mixed numbers

4. Demonstrate examples of operations with decimals

5. Demonstrate examples of operations with percentages

6. Employ percent/decimal/fraction conversion and comparison

7. Define and calculate with ratios and proportions

8. Use the Imperial Measurement system in relevant trade applications

9. Use the Metric Measurement system in relevant trade applications

10. Perform Imperial/Metric conversions

11. Define and demonstrate the formulation of variables

12. Demonstrate and define the various properties of angles and make relevant calculations

Major Tasks/Sub-tasks (Skills):

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

CM-2150 WORKPLACE COMMUNICATIONS

Description:

This course is designed to introduce students to the principles of effective communication including letters, memos, short report writing, oral presentations and interpersonal communications.

Course Outcomes:

Upon completion of the course, students will be able to:
- understand and apply communication skills as outlined in the Employability Skills 2000, Conference Board of Canada
- understand the importance of well-developed writing skills in business and in career development.
- understand the purpose of the various types of business correspondence.
- examine the principles of effective business writing.
- examine the standard formats for letters and memos.
- write effective letters and memos.
- examine the fundamentals of informal reports and the report writing procedure.
- produce and orally present an informal report
- examine effective listening skills and body language in communication

Objectives and Content:

1. Apply rules and principles for writing clear, concise, complete sentences which adhere to the conventions of grammar, punctuation, and mechanics.

2. Explain the rules of subject-verb agreement.

3. Define and describe the major characteristics of an effective paragraph

4. Examine the Value of Business Writing Skills
   i) Describe the importance of effective writing skills in business
   ii) Describe the value of well-developed writing skills to career success as referenced in the Employability Skills

5. Examine Principles of Effective Business Writing
   i) Discuss the rationale and techniques for fostering goodwill in business communication, regardless of the circumstances
   ii) Review the importance of revising and proofreading
   iii) Differentiate between letter and memo applications in the workplace & review samples
   iv) Identify the parts of a business letter and memo

v) Review the standard formats for business letters and memos
vi) Examine samples of well-written and poorly written letters and memos
vii) Examine guidelines for writing sample letters and memos which convey: acknowledgment, routine request, routine response, complaint, refusal, persuasive request and letters of appeal.

6. Examine the Fundamentals of Informal Business Reports
   i) Identify the purpose of the informal report
   ii) Identify the parts and formats of an informal report
   iii) Identify methods of information gathering
   iv) Describe the methods of referencing documents
   v) Review the importance of proof reading and editing

7. Examine types of presentations
   i) Review & discuss components of an effective presentation
   ii) Review & discuss delivery techniques
   iii) Review & discuss preparation & use of audio/visual aids
   iv) Discuss & participate in confidence building exercises used to prepare for giving presentations

8. Interpersonal Communications
   i) Examine and apply listening techniques
   ii) Discuss the importance of body language

Practical:

1. Write well-developed, coherent, unified paragraphs which illustrate the following: A variety of sentence arrangements; conciseness and clarity; and adherence to correct and appropriate sentence structure, grammar, punctuation, and mechanics.

2. Write sample letters and memos which convey: acknowledgment, routine request, routine response, complaint, refusal, persuasive request and letters of appeal.

3. Gather pertinent information, organize information into an appropriate outline & write an informal report with documented resources.
   i) Edit, proofread, and revise the draft to create an effective informal report and present orally using visual aids
   ii) Participate in confidence building exercises

4. Present an effective presentation.

5. Evaluate presentations.

MR-1220 CUSTOMER SERVICE

Description:

This course focuses on the role of providing quality customer service. It is important to have a positive attitude and the necessary skills to effectively listen and interpret customer concerns about a product, resolve customer problems, and determine customer wants and needs. Students will be able to use the skills and knowledge gained in this course to effectively provide a consistently high level of service to the customer.

Course Outcomes:

Upon successful completion of this course, students will be able to:
- define customer service
- explain why service is important
- describe the relationship between “service” and “sales”
- demonstrate an understanding of the importance of a positive attitude
- demonstrate methods of resolving customer complaints

Objectives and Content:

1. Define quality service
   - i) Identify and discuss elements of customer service
   - ii) Explain the difference between Service vs. Sales or Selling
   - iii) Explain why quality service is important
   - iv) Identify the various types of customers & challenges they may present
   - v) Describe customer loyalty
   - vi) Examine barriers to quality Customer Service

2. Explain how to determine customers wants and needs
   - i) Identify customer needs
   - ii) Explain the difference between customer wants and needs
   - iii) Identify ways to ensure repeat business

3. Demonstrate an understanding of the importance of having a positive attitude
   - i) Identify & discuss the characteristics of a positive attitude
   - ii) Explain why it is important to have a positive attitude
   - iii) Explain how a positive attitude can improve a customer’s satisfaction
   - iv) Define perception and explain how perception can alter us and customers
   - v) Describe methods of dealing with perception

4. Communicating effectively with customers
   - i) Describe the main elements in the communication process
   - ii) Identify some barriers to effective communication
   - iii) Explain why body language is important
   - iv) Define active listening and state why it is important
   - v) Identify and discuss the steps of the listening process
   - vi) Identify and discuss questioning techniques

5. Demonstrate using the telephone effectively
   - i) Explain why telephone skills are important
   - ii) Describe the qualities of a professional telephone interaction

6. Demonstrate an understanding of the importance of asserting oneself
   - i) Define assertiveness
   - ii) Discuss assertive techniques
   - iii) Explain the use of assertiveness when dealing with multiple customers

7. Demonstrate techniques for interacting with challenging customers in addressing complaints & resolving conflict
   - i) Examine & discuss ways to control feelings
   - ii) Examine & discuss ways to interact with an upset customer
   - iii) Examine & discuss ways to resolve conflict/customer criticism
   - iv) Examine & discuss ways to prevent unnecessary conflict with customers

Practical:

1. Participate in activities to demonstrate knowledge of the course objectives.

SP-2330 QUALITY ASSURANCE/QUALITY CONTROL

Description:

This course is designed to give students an understanding of the concepts and requirements of QA/QC such as, interpreting standards, controlling the acceptance of raw materials, controlling quality variables and documenting the process. It includes information on quality concepts, codes and standards, documentation, communications, human resources, company structure and policy, teamwork and responsibilities.

Course Outcomes:

Upon completion of this course, students will be able to:
– develop the skills and knowledge required to apply quality assurance/quality control procedures as related to the trade
– develop an awareness of quality principles and processes
– apply quality assurance/quality control procedures in a shop project

Objectives & Content:

1. Describe the reasons for quality assurance and quality plans.

2. Explain the relationship between quality assurance and quality control.

3. Describe quality control procedures as applied to the production and checking of specifications and processes in applicable occupations.

4. Describe quality control procedures as applied to the acceptance and checking of raw materials.

5. Explain the role of communications in a quality environment.

6. Explain why it is important for all employees to understand the structure of the company and its production processes.

7. Explain how human resource effectiveness is maximized in a quality managed organization.

8. Explain the role of company policy in quality management.

9. Explain the purpose of codes and standards in various occupations.

10. Explain the concepts of quality
    i) cost of quality
    ii) measurement of quality

iii) elements of quality
iv) elements of the quality audit
v) quality standards
vi) role expectations and responsibilities

11. Explain the structure of quality assurance and quality control
    i) Describe organizational charts
    ii) Identify the elements of a quality assurance system such as ISO, CSA, WHMIS, Sanitation Safety Code (SSC)
    iii) Explain the purpose of the quality assurance manual
    iv) Describe quality assurance procedures

12. Examine quality assurance/quality control documentation
    i) Describe methods of recording reports in industry
    ii) Describe procedures of traceability (manual and computer-based recording)
    iii) Identify needs for quality control procedures

Practical:

1. Apply quality control to a project
    i) Follow QA/QC procedures for drawings, plans and specifications in applicable occupations.
    ii) Calibrate measuring instruments and devices in applicable occupations.
    iii) Interpret required standards
    iv) Follow QA/QC procedures for accepting raw materials
    v) Carry out the project
    vi) Control the quality elements (variables)
    vii) Complete QA/QC reports

MC-1050 INTRODUCTION TO COMPUTERS

Description:

This course is designed to give the student an introduction to computer systems. Particular emphasis is given to word processing, spreadsheet, e-mail and the Internet and security issues.

Course Outcomes:

Upon completion of this course, students will have a basic understanding of:
– computer systems and their operation.
– popular software packages, their applications
– security issues of Computers

Objectives & Content:

1. Identify the major components of microcomputer system hardware and software system.

2. Describe the functions of the microprocessor.
   i) Describe and give examples of I/O DEVICES.
   ii) Describe primary storage (RAM, ROM, Cache).
   iii) Define bit, byte, code and the prefixes k.m. and g.
   iv) Describe secondary storage (diskettes and hard disks, CD ROMS, Zip Drives etc).
   v) Describe how to care for a computer and its accessories.

3. Describe microcomputer software
   i) Define software.
   ii) Describe types of operational and application software
   iii) Define file and give the rules for filenames and file extensions.

4. Describe windows software
   i) Start and quit a Program
   ii) Demonstrate how to use the help function
   iii) Locate a specific file using the **find** function
   iv) Identify system settings:wall paper, screen saver, screen resolution, background
   v) Start a program by using the Run Command
   vi) Shutting down your computer

5. Identify File Management commands
   i) Demonstrate how to view directory structure and folder content
   ii) Organize files and folders

iii) Copy, delete, and move files and folders
iv) Create folders
v) Maximize and minimize a window
vi) Describe windows task bar

6. Describe Keyboards
   i) Identify and locate alphabetic and numeric keys
   ii) Identify and locate function key & special keys

7. Describe Word Processing
   i) Describe Windows components
   ii) Menu bar
   iii) Menu indicators
   iv) Document window
   v) The Status bar
   vi) The Help feature
   vii) Insertion point movements

8. Describe the procedure used to development of a document
   i) Enter text
   ii) Change the display

9. Describe the procedure for opening, saving and exiting documents
   i) Saving a document
   ii) Closing a document.
   iii) Starting a new document Window
   iv) Opening a document
   v) Exiting word processor

10. Describe the procedure for editing a Document
    i) Adding new text
    ii) Deleting text
    iii) Using basic format enhancement (split and join paragraphs, insert text)

11. Describe the main Select Features
    i) Identify a selection
    ii) Moving a selection
    iii) Copying a selection
    iv) Deleting a selection
    v) Saving a selection

12. Explain how to change Layout Format
    i) Changing layout format: (margins, spacing, alignment, paragraph indent, tabs, line spacing, page numbering)
13. Explain how to change Text Attributes

i) Changing text attributes: (bold, underline, font, etc.)

14. Describe the Auxiliary Tools
    i) Using Spell Check & Thesaurus

15. Describe Print features
    i) Selecting the Print Feature: (i.e; number of copies and current document)
    ii) Identifying various options in print screen dialogue box

16. Examine & Discuss Electronic Spreadsheet
    i) Spreadsheet Basics
    ii) The Worksheet Window

17. Describe Menus
    i) Menu Bar
    ii) Control menu
    iii) Shortcut menu
    iv) Save, Retrieve form menus

18. Describe the components of a worksheet
    i) Entering constant values and formulas
    ii) Using the Recalculation feature

19. Describe Use ranges
    i) Typing a range for a function
    ii) Pointing to a range for a function
    iii) Selecting a range for toolbar and menu commands

20. Describe how to print a worksheet
    i) Printing to the Screen
    ii) Printing to the Printer
    iii) Printing a selected Range

21. Describe how to edit a worksheet
    i) Replacing cell contents
    ii) Inserting & deleting rows and columns
    iii) Changing cell formats
    iv) Changing cell alignments
    v) Changing column width
    vi) Copying and moving cells

22. State major security issues in using computers
    i) Pass words
    ii) Accessing accounts
    iii) Viruses and how they can be avoided

iv) Identity theft and ways to protect personal information

23. Describe how to use Electronic Mail
    i) E-mail etiquette
    ii) E-mail accounts
    iii) E-mail messages
    iv) E-mail message with attachments
    v) E-mail attachments
    vi) Print e-mail messages
    vii) Deleting e-mail messages

24. Explain the Internet and its uses
    i) The World Wide Web(www)
    ii) Accessing Web sites
    iii) Internet Web Browsers
    iv) Internet Search Engines
    v) Searching Techniques
    vi) Posting documents on-line

Practical:

1. Create a document using Word Processing.

2. Complete word processing exercises to demonstrate proficiency in word processing

3. Prepare and send e-mails with attachments

4. Retrieve documents and e-mail attachments and print copies

5. Develop & print a spread sheet.

6. Post a document on-line

SD-1700 WORKPLACE SKILLS

Description:

This course involves participating in meetings, information on formal meetings, unions, workers' compensation, employment insurance regulations, workers' rights and human rights.

Course Outcomes:

Upon completion of this course, students will be able to:
- Participate in meetings
- Define and discuss basic concepts of:
  - unions
  - workers' compensation
  - employment insurance
  - workers' rights
  - human rights
  - workplace diversity
  - gender sensitivity

Objectives & Content:

1. Meetings
   - i) Identify & discuss meeting format and preparation required for a meeting.
   - ii) Explain the purpose of an agenda.
   - iii) Explain the roles and responsibilities of meeting participants.
   - iv) Explain the purpose of motions and amendments and withdrawals.
   - v) Explain the procedure to delay discussion of motions.
   - vi) Explain the voting process.

2. Unions
   - i) State why unions exist.
   - ii) Give a concise description of the history of Canadian labour.
   - iii) Explain how unions function.
   - iv) Explain labour's structure.
   - v) Describe labour's social objectives.
   - vi) Describe the relationship between Canadian labour and the workers.
   - vii) Describe the involvement of women in unions.

3. Worker's Compensation
   - i) Describe the aims, objectives, benefits and regulations of the Workplace Health, safety and Compensation Commission.
   - ii) Explain the internal review process.

4. Employment Insurance
   i) Explain employment insurance regulations
   ii) Describe how to apply for employment insurance.
   iii) Explain the appeal process.
   iv) Identify the components of a letter of appeal.

5. Worker's Rights
   i) Define labour standards.
   ii) Explain the purpose of the Labour Standards Act.
   iii) Identify regulations pertaining to:
      – Hours of work
      – Minimum wages
      – Employment of children
      – Vacation pay
   iv) Explain the purpose of the Occupational Health & Safety Act as it refers to workers' rights

6. Human Rights
   i) Describe what information cannot be included on an employment application.
   ii) Describe what information cannot be included in an interview.
   iii) Examine the Human Rights Code and explain the role of the Human Rights Commission.
   iv) Define harassment in various forms and identify strategies for prevention.

7. Workplace Diversity
   i) Define and explore basic concepts and terms related to workplace inclusively including age, race, culture, religion, socio-economic, sexual orientation with an emphasis on gender issues and gender stereotyping.

8. Gender Sensitivity
   i) Explore gender and stereotyping issues in the workplace by identifying strategies for eliminating gender bias.

Practical:

1. Prepare an agenda.

2. Participate in a meeting.

3. Analyze a documented case of a human rights complaint with special emphasis on the application, time frame, documentation needed, and legal advice available.

SD-1710 JOB SEARCH TECHNIQUES

Description:

This course is designed to give students an introduction to the critical elements of effective job search techniques.

Course Outcomes:

Upon completion of this course, students will be able to:
– Demonstrate effective use of Job Search Techniques

Objectives & Content:

1. Identify and examine employment trends and opportunities

2. Identify sources that can lead to employment

3. Access and review information on the Newfoundland and Labrador Apprenticeship and Certification Web site and the Apprenticeship Employment Gateway

4. Analyze job ads and discuss the importance of fitting qualifications to job requirements

5. Identify and discuss employability skills as outlined by the Conference Board of Canada.

6. Discuss the necessity of fully completing application forms**.**

7. Establish the aim/purpose of a resume

8. Explore characteristics of effective resumes, types of resumes, and principles of resume format .

9. Explore characteristics of an effective cover letter.

10. Identify commonly asked questions in an interview.

11. Explore other employment related correspondence.

12. Explore the job market to identify employability skills expected by an employer.

13. Conduct a self-analysis and compare with general employer expectations.

14. Discuss the value of establishing and maintaining a portfolio.

Practical:

1. Complete sample application forms.

2. Write a resume.

3. Write an effective cover letter.

4. Establish a portfolio.

5. Write out answers to commonly asked questions asked during interviews.

6. Identify three potential employers from the Apprenticeship Employment gateway, Apprenticeship & Certification web site.

SD-1720 ENTREPRENEURIAL AWARENESS

Description:

This course is designed to introduce the student to the field of entrepreneurship, including the characteristics of the entrepreneur, the pros and cons of self-employment, and some of the steps involved in starting your own business.

Course Outcomes:

Upon completion of this course, the student will be able to:
– Identify the various types of business ownership, the advantages and disadvantages of self-employment and identify the characteristics of an entrepreneur.
– State the purpose and identify the main elements of a business plan.

Objectives & Content:

1. Explore Self-Employment: An Alternative to Employment
   i) Identify the advantages and disadvantages of self-employment vs. regular employment
   ii) Differentiate between an entrepreneur and a small business owner
   iii) Evaluate present ideas about being in business

2. Identify and discuss various types of business ownership

   i) Explore the Characteristic of Entrepreneurs
   ii) Identify characteristics common to entrepreneurs
   iii) Compare one's own personal characteristics with those of entrepreneurs.
   iv) Examine one's present ideas about business people

3. Identify Business Opportunities
   i) Distinguish between an opportunity and an idea.
   ii) Examine existing traditional and innovative business ventures
   iii) Identify and summarize the role of various agencies that support business development.
   iv) Identify potential business opportunities.

4. Review the Entrepreneurial Process.
   i) Explain the entrepreneurial process
   ii) Describe the purpose of a business plan
   iii) Identify & discuss the main elements of a business plan

Practical:

1. From a list potential business opportunities prepare a list of elements that would have to be included in a business plan.

BLOCK II

LA-2100 BLUEPRINT READING AND ESTIMATING I

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills to read and interpret architectural, mechanical and electrical blueprint drawings and perform quantity takeoffs.

Outcomes:

Upon successful completion of this course the apprentice will be able to:
- perform quantity takeoffs for the construction of demountable wall systems
- perform quantity takeoffs for the construction of drywall, exposed grid t-bar and metal lath ceilings

Pre requisites: AJ-1150; LA-1150; LA-1160

Course Duration: 45 hrs.

Theory:

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:

1. Determine quantities for each system
    a. track
    b. studs
    c. screws/fasteners
    d. resilient channel
    e. 1 ½" channel
    f. drywall
    g. battens
    h. base
    i. door/window frames
    j. trim
    k. acoustical/thermal insulation and vapour barrier
    l. acoustical caulking
    m. wall channel/moulding
    n. hangers
    o. main tees
    p. U bar/cross tees
    q. tiles/metal lath
    r. hold down clips
    s. specialty components

LA-2110 DEMOUNTABLE WALL SYSTEMS

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills for constructing demountable partition systems and installing sound insulation, as well as the use of relevant tools and equipment.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- construct demountable partition systems in compliance to codes and specifications
- installing sound and thermal insulation in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisite: LA-1150

Course Duration: 45 hrs.

Theory:

1. Describe types of demountable partition systems
2. Interpret specification and drawing requirements for systems
3. Identify procedures 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 such as clips, wafer screws, plastic plugs and 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 trades which must be consulted such as electrical and mechanical trades

15. Identify types and sizes of vinyl board

16. Determine techniques and procedures to cut wall panels

17. Recognize different wall panel systems; clip-on, hang on, exposed battens, lock system, non progressive and progressive systems

18. Identify manufacturers' procedures for securing wall panels

19. Recognize types of trim; ceiling trim, floor base, batten covers, batten corners, and two piece trim systems

20. Identify types and grades of insulation: cellulose, fibreglass, styrofoam and 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:

1. Identifies systems
   a. Assess completeness of available parts/components

2. Locates area and lays out walls and openings for installation
   a. Locate walls and openings on floor/ceiling
   b. Transfer marks from plan to floor and ceiling

3. Cuts bottom and top track to required length

4. Installs gaskets/caulking on track
   a. Trim neoprene gaskets to fit

5. Fastens top and bottom track
   a. Apply required caulking

6. Cuts steel studs to required length

7. Positions and fastens studs in place
   a. Layout location of steel stud on track
   b. Crimp/screw/tack weld steel studs

8. Frames openings
   a. Mark openings
   b. Measure and cut studs and track to size
   c. Install track and studs

9. Fills wall cavity with insulation

10. Cuts wall panels
    a. Measure and mark wall panels
    b. Cut wall panels for width and height
    c. 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
    a. Plumb, level and square frames
    b. Fasten frames to steel stud

14. Measure and cut trim to specified sizes

15. Position and secure trim

LA-2120 ADVANCED CEILING SYSTEMS

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills for installing drywall and t-bar ceilings with soffits, drops, expansion/control joints, as well as the use of relevant tools and equipment.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- install drywall ceiling complete with soffits, drops, expansion/control joints in compliance to codes and specifications
- install T-bar ceiling complete with soffits, drops, expansion/control joints in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisite: LA-1160

Course Duration: 45 hrs.

Theory:

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:

1. Establishes finished ceiling lines
   a. Determine location of benchmark
   b. Determine ceiling height from bench-mark and mark required heights
   c. Chalk and measure lines

2. Fastens wall moulding to wall
   a. Select and apply fasteners
   b. Locate and secure wall mouldings

3. Establishes and squares layout lines
   a. Measure and apply squaring techniques
   b. Verify layout lines meet specifications

4. Bends hangers
   a. Determine location of hangers
   b. Set up scaffold system according to job site condition
   c. Set up and operate laser alignment system
   d. Establish hanger height
   e. Position hangers to specifications
   f. Measure and bend hangers
   g. Tie or twist hanger

5. Cuts carrying channels and furring channels
   a. Identify different types, sizes and gauges of carrying channels and furring
   b. Measure channels

6. Fastens carrying channel to hangers
   a. Determine manufacturers' procedures for attaching carrying channel
   b. Select types of ties
   c. Space channels
   d. Set channel on hanger and secure

7. Fastens furring channels to carrying channels at correct spacing
   a. Measure and position channels to maintain straight line
   b. Fasten wire ties to carrying channels

8. Frames all openings, drops and soffits

9. Cuts backing
   a. Select backing materials
   b. Layout, measure and cut backing materials
   c. Determine and measure location of openings

10. Fastens backing
    a. Select sizes and types of fasteners

11. Lays out control and expansion joints
    a. Calculate number of joints required

12. Applies and fastens drywall
    a. Measure and cut drywall
    b. Align drywall to furring
    c. Select fasteners to meet installation specifications
    d. Inspect seating of fastener and adjust to meet job requirements

13. Applies and fastens trim
    a. Select trim to meet installation requirements
    b. Measure, position and cut trim for flat and curved surfaces
    c. Select fasteners to meet trim and work area requirements

14. Applies and fastens precast decorative wall and ceiling mouldings
    a. Position and match sections of decorative mouldings
    b. Select fasteners to meet mouldings requirements
    c. Measure, level and fasten mouldings
    d. Refinish joints in decorative mouldings

15. Cuts main tees and cross tees
    a. Select types and sizes of tees to correspond with specifications and layout
    b. Measure and cut main and cross tees according to squared lines

16. Fastens main tee to hangers
    a. Verify positioning of hangers
    b. Wrap and secure hangers, including extra support around fixtures

17. Inserts cross tees to main tees
    a. Frames ceiling to accommodate lighting and mechanical fixtures
    b. Square ceiling
    c. Assemble ceiling systems

18. Cuts ceiling tiles for accessories and borders

19. Installs ceiling tile

20. Clips ceiling tiles for fire rated ceilings

LA-2130 METAL CUTTING AND WELDING

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills for the cutting and welding of light gauge metals, as well as the use of relevant tools and equipment.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- demonstrate the elements of safety in welding operations
- select and use oxy-acetylene cutting equipment to torch-cut mild steel
- select and use shielded metal arc welding equipment to weld mild steel in compliance to codes and specifications
- select and use gas metal arc welding to weld mild steel in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisites: LA-1140

Course Duration: 90 hrs.

Theory:

1. Identify personal protection equipment: welding gloves, goggles, helmets, filter and cover lenses, safety footwear, aprons, respiratory protection, and 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: moving, lifting, securing, safety devices, construction and operation of valves, 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 such as cylinders, valves, regulators, manifolds, torches, tips, and 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): base metal preparation, fluxes, filler rods alloys, tinning, preheating, and welding.

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

12. Identify the components of basic power sources: transformers, circuits, AC/DC, input/output, polarity, amperage/duty cycle, cables and connectors, electrode holders, and grounding

13. Describe processes involved in shielded metal arc welding (SMAW) including selection of electrodes, current, and polarity

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

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

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

Practical:

1. Set up oxy-acetylene cutting equipment

2. Torch-cut freehand to cut: holes, circles and bevels.

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

4. Use (SMAW) to weld ⅛" plate, and construct : butt, lap, tee, and corner joints in flat and horizontal positions.

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" wire on a variety of metal thicknesses

BLOCK III

LA-2140 BLUEPRINT READING AND ESTIMATING II

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills to read and interpret architectural, mechanical and electrical blueprint drawings and perform quantity takeoffs.

Outcomes:

Upon successful completion of this course the apprentice will be able to:

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

Pre requisites: LA-2100; LA-2110; LA-2120

Course Duration: 30 hrs.

Theory:

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:

1. Determine quantities for each system
    a. track
    b. studs
    c. screws/fasteners/adhesive
    d. thermal insulation and vapour barrier
    e. drywall interior/exterior
    f. door/window frames
    g. acoustical caulking
    h. wall channel/moulding
    i. hangers
    j. 1 ½" channels/main tees
    k. u bar/cross tees
    l. tiles/metal lath/metal pan/metal linear/floor panels
    m. hold down/t-bar clips
    n. pedestals c/w heads
    o. stairs/ramps
    p. Specialty components

LA-2150 SPECIALTY WALL SYSTEMS

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills to build and install exterior prefabricated wall panels and fabric walls, install exterior insulation finish systems (EIFS) and to prepare base materials for acrylic finishes, as well as the use of relevant tools and equipment.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- build and install exterior prefabricated wall panels in compliance to codes and specifications
- build fabric walls in compliance to codes and specifications
- install exterior insulation finish systems (EIFS) in compliance to codes and specifications
- prepare base materials for acrylic finishes in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisite: LA-2110

Course Duration: 30 hrs.

Theory:

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, such as fabric track system, build-in-place, acoustic track and prefabricated

11. Identify fabric types

12. Identify positioning of electrical outlets and accessories in walls

13. List types and explain physical characteristics of panels, tracks and corners

14. Determine installation procedures for fastening track

15. Identify panel layout techniques

16. Determine spacing required between panels and mitred 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 prepared surface

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

33. Recognize different types of metal trim such as corner, expansion joint, edge trim

34. Identify location of metal trim

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

Practical:

1. Identifies type of: finish system, wall panel or fabric wall
   a. Interpret wall legends

2. Prepares surface
   a. Apply sealant
   b. Apply vapour barrier

3. Makes template
   a. Verify that template is "true"

4. Cuts track/studs

5. Assembles track/stud
   a. Align tracks
   b. Verify and adjust seating of fasteners

6. Frames all openings
   a. Cut and install frames on the opening
   b. Level, square and adjust frames

7. Cuts insulation/foam materials
   a. Measure insulation to meet panel dimensions

8. Installs insulation/foam material

9. Rasps surfaces
   a. Even joints and corners

10. Cuts fabric
    a. Measure fabric to meet panel dimensions
    b. Clean fabric prior to installation

11. Stretches fabric over perimeter of track
    a. Stretch, cut and fit fabric over track according to its characteristics
    b. Fit and fasten fabric around electrical outlets, accessories and openings

c. Select and install fabric fasteners

12. Hangs prefabricated baffles and wall panels
    a. Apply fastening systems and hang prefabricated panels

13. Install Exterior Insulation Finish System (EIFS)

14. Cuts exterior drywall
    a. Determine starting point for drywall application
    b. Cut drywall to size and cut openings

15. Applies exterior drywall to studs

16. Applies building paper to exterior drywall
    a. Place paper on drywall with overlap as per specifications
    b. Apply adhesive to overlap paper

17. Applies trim/metal trim and plastic mesh
    a. Measure, position and cut trim for flat and curved surfaces
    b. Stretch plastic mesh and hold in place with roofing nails

18. Cuts metal lath/stucco wire

19. Applies metal lath/stucco wire

LA-2160 SPECIALTY CEILING SYSTEMS

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills for installing vaulted, barrelled and multiple elevation drywall ceilings, metal pan ceilings and exterior/interior metal linear ceilings, as well as the use of relevant tools and equipment.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- install vaulted, barrelled and multiple elevation drywall ceilings in compliance to codes and specifications
- install metal pan ceilings in compliance to codes and specifications
- install exterior metal linear ceilings in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisites: LA-2120

Course Duration: 45 hrs.

Theory:

Practical:

1. Locates and affixes hangers
   a. Measures and cuts hangers
   b. Install inserts
   c. Position and bend tops of hangers for insert

2. Establishes finished ceiling lines
   a. Determine ceiling height from bench-mark and mark required height
   b. Set up and operate leveling tools
   c. Chalk and measure lines

3. Bends hangers
   a. Measure and bend hangers
   b. Set up and operate laser alignment system
   c. Tie or twist hanger

4. Cuts carrying channel and 7/8" furring channels
   a. Measure, cut and space channels

5. Fastens carrying channel to hangers
   a. Select types of ties
   b. Set channel on hanger and secure

6. Installs struts/kickers

7. Ties furring channel to channel carriers at correct spacing
   a. Select types of ties
   b. Fasten wire ties to carrying channels
   c. Measure and position channels to maintain straight line

8. Frames all openings
   a. Cut and install frames for opening
   b. Level, square and adjust frames

9. Cuts backing
   a. Select backing materials
   b. Measure location of openings
   c. Layout, measure and cut backing materials

10. Fastens backing

11. Applies and fastens drywall
   a. Measure and cut drywall
   b. Align drywall to furring
   c. Fasten to meet installation specifications
   d. Inspect seating of fastener and adjust to meet job requirements

12. Applies and fastens trim
   a. Measure, position and cut trim for flat and curved surfaces
   b. Select fasteners to meet trim and work area requirements

13. Applies and fastens **wall mouldings/precast decorative wall and ceiling mouldings**
   a. Match sections of decorative mouldings
   b. Measure, level and cut mouldings
   c. Locate and secure decorative mouldings by glue and screw method

14. Cuts Main Tees
   a. Arrange square layout lines
   b. Select types and sizes of tees to correspond with specifications and layout
   c. 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
    a. 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

LA-2170 ACCESS FLOORING

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills to identify and install the basic components of access flooring systems and accessories, as well as the use of relevant tools and equipment.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- layout, level and install access flooring systems and accessories in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisites: LA-1140

Course Duration: 15 hrs.

Theory:

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:

1. Establishes leveled finished floor height
   a. Set up and operate a laser alignment system
   b. Measure and chalk lines

2. Verifies tile size

3. Measures floor pattern
   a. Measure and snap chalk lines

4. Positions and fastens pedestals

5. Fastens angles to columns and walls
   a. Select materials to be installed
   b. Select and install fasteners

6. Fastens stabilizers to pedestals
   a. Clip/screw stabilizer into place

7. Cuts tiles
   a. Measure tiles to meet dimensions

8. Installs tiles

LA-2180 RADIATION SHIELDING AND SOUND PROOFING

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills for building and installing sound baffing and installing lead shielding, as well as the use of relevant tools and equipment.

Outcomes:

Upon successful completion of this course, the apprentice will be able to:
- build and install sound baffling in compliance to codes and specifications
- install lead shielding in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisite: LA-2110

Course Duration: 30 hrs.

Theory:

1. Explain types of baffling systems such as lead, drywall, 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 such as lead and/or 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:

1. Identifies system to be used

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

3. Measures and cuts lead, drywall, or fibreglass

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

5. Seals drywall, baffling or fibreglass
   a. Glue lead sheet together with contact cement at joints
   b. Apply compound and tape to joints
   c. Apply foil tape to insulation joints
   d. 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
    a. Select and install fasteners to lead shielding
    b. Shield electrical outlets, accessories and openings

11. Applies wall finish
    a. Measure and cut wallboard to size
    b. Apply fastening systems and wall finishes without damaging the covered lead shielding

LA-2190 METAL LATH AND STUCCO WIRE

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills for installing metal lath and stucco wire, as well as the use of relevant tools and equipment.

Outcomes:

Upon successful completion of this course the apprentice will be able to:
- install metal lath and stucco wire in compliance to codes and specifications
- perform related work through the safe use of relevant tools and equipment

Pre requisites: LA-2110; LA-2120

Course Duration: 15 hrs.

Theory:

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:

1. Locates and affixes hangers
   a. Measures and cuts hangers
   b. Position and bend tops of hangers for inserts

2. Establishes ceiling line
   a. Transfer height from bench-marks
   b. Measure and chalk lines

3. Bends hangers
   a. Establish hanger height
   b. Mark hanger at bend
   c. Tie or twist hanger

4. Cuts carrying channels and furring channels
   a. Measure room size
   b. Measure and space channels

5. Fastens carrying channels to hangers

6. Fastens seismic post from ceiling deck
   a. Securely fasten seismic posts to channels
   b. Install guide wires on channel to ceiling deck at 45^0

7. Ties furring channel to channel carrier
   a. Position furring channel
   b. Fasten wire ties to carrying channel at specified intervals

8. Frames openings
   a. Locate openings for mechanical and electrical devices
   b. Cut and measure channels
   c. Level, square and adjust frame
   d. Tie channels in place around opening

9. Ties plaster stops to furring channels
   a. Position plaster stops
   b. Tie plaster stop

10. Fastens plaster rings

11. Measures and cuts metal lath/stucco wire

12. Ties metal lath/stucco wire to furring channel
   a. Place ties at specified spacings on furring channels

b. Positions lath/wire
c. Secure lath edges at seams

13. Ties control joints over lath/wire
    a. Locate control joint from drawings
    b. Position control joints