Plan of Training

LANDSCAPE HORTICULTURIST

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Advanced Education and Skills
Apprenticeship and Trades Certification Division

JUNE 2011

PLAN OF TRAINING

Landscape Horticulturist

June 2011

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Education
Institutional and Industrial Education Division

Approved by:

Chairperson, Provincial Apprenticeship and Certification Board

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Preface

This Apprenticeship Standard is based on the 2010 edition of the National Occupational Analysis for the Landscape Horticulturist trade.

This document describes the curriculum content for the Landscape Horticulturist apprenticeship training program and outlines each of the technical training units necessary for the completion of apprenticeship.

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Advisory committees, industry representatives, instructors and apprenticeship staff provided valuable input to the development of this Apprenticeship Curriculum Standard. Without their dedication to quality apprenticeship training, this document could not have been produced.

We offer you a sincere thank you.

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A. Profile Chart

OCCUPATIONAL SKILLS			
LT1100 Safety	**LT1110** Hand and Power Tools	**LT1130** Vehicles, Equipment and Machinery	**LT1200** Plant Science
LT1210 Plant Identification I	**LT1211** Plant Identification II	**LT2210** Plant Identification III	**LT1220** Soil Management
CM2150 Workplace Communications	**LT2190** Pest and Disease Management	**LT2170** Trade Related Documents	**LT2230** Plant Inventory Management
MR1220 Customer Service	LT2200 Estimating		
LANDSCAPE CONSTRUCTION			
LT1300 Site Layout and Surveying	**LT1240** Plan Reading	**LT2100** Job Planning	**LT2110** Site Protection Grading and Drainage
LT1280 Plant Installation	**LT1290** Turf Establishment	**LT2150** Landscape Pavers	**LT2160** Irrigation
LT2120 Landscape Walls	**LT2130** Concrete Construction	**LT2140** Wood Construction	**LT2180** Water Features and Low Voltage Landscape Lighting
LT1270 Interior Plantscapes			
LANDSCAPE MAINTENANCE			
LT1230 Fertilizers	**LT1250** Plant Care and Maintenance	**LT2220** Pruning	**LT1260** Turf Maintenance

B. NOA Comparison Table

2010 NOA Tasks and Sub-task		2011 POT	
Task 1 - Uses and maintains tools and equipment.			
1.01	Maintains hand tools.	LT1100	Safety
		LT1110	Hand and Power Tools
1.02	Maintains power tools.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
1.03	Maintains measuring equipment.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
1.04	Maintains vehicles and motorized equipment.	LT1130	Vehicles, Equipment and Machinery
1.05	Maintains equipment attachments.	LT1130	Vehicles, Equipment and Machinery
1.06	Uses personal protective equipment.	LT1100	Safety
1.07	Transports equipment.	LT1130	Vehicles, Equipment and Machinery
Task 2 - Organizes work.			
2.01	Performs site assessments.	LT2230	Plant Inventory Management
		LT1290	Turf Establishment
		LT1300	Site Layout and Surveying
		LT2110	Site Protection, Grading and Drainage
2.02	Uses documentation and reference material.	LT1100	Safety
		CM2150	Workplace Communications
		LT2170	Trade Related Documents
		MR1220	Customer Service
		LT1240	Plan Reading
		LT1210	Plant Identification I
		LT1211	Plant Identification II
		LT2210	Plant Identification III
		LT2230	Plant Inventory Management
		LT2190	Pest and Disease Management
2.03	Maintains records.	CM2150	Workplace Communications
		LT2170	Trade Related Documents
		LT2230	Plant Inventory Management

2010 NOA Tasks and Sub-task		2011 POT	
2.04	Complies with policies and regulations.	LT1100	Safety
		LT2170	Trade Related Documents
		LT1110	Hand and Power Tools
		LT2190	Pest and Disease Management
		LT1230	Fertilizers
2.05	Plans daily tasks.	CM2150	Workplace Communications
		LT2170	Trade Related Documents
		LT2100	Job Planning
		LT1240	Plan Reading
2.06	Communicates with others.	CM-2150	Workplace Communications
		MR1220	Customer Service
2.07	Orders plant materials.	LT2170	Trade Related Documents
		LT2100	Job Planning
		LT2200	Estimating
		LT2230	Plant Inventory Management
2.08	Transports materials.	LT1130	Vehicles, Equipment and Machinery
		LT2230	Plant Inventory Management
2.09	Organizes plants, materials and equipment.	LT2100	Job Planning
		LT1130	Vehicles, Equipment and Machinery
		LT1240	Plan Reading
		LT1300	Site Layout and Surveying
		LT2230	Plant Inventory Management
		LT1220	Soil Management
2.10	Maintains safe work environment.	LT1100	Safety
Task 3 - Participates in marketing and sales.			
3.01	Controls inventory	LT2170	Trade Related Documents
		LT2100	Job Planning
		LT2230	Plant Inventory Management
3.02	Sells products and services.	CM2150	Workplace Communications
		MR1220	Customer Service
3.03.	Maintains customer relations.	CM2150	Workplace Communications
		MR1220	Customer Service
3.04	Performs estimating, tendering and contracting.	CM2150	Workplace Communications
		LT2170	Trade Related Documents
		LT2200	Estimating

2010 NOA Tasks and Sub-task		2011 POT	
Task 4 - Analyses and maintains plant health.			
4.01	Identifies plants.	LT1210	Plant Identification I
		LT1211	Plant Identification II
		LT2210	Plant Identification III
4.02	Manages growing conditions.	LT2230	Plant Inventory Management
		LT1220	Soil Management
4.03	Manages pests and diseases.	LT2190	Pest and Disease Management
Task 5 - Performs pre-construction activities.			
5.01	Participates in basic landscape design activities.	LT1240	Plan Reading
		LT1300	Site Layout and Surveying
5.02	Interprets landscape plans.	MR1220	Customer Service
		LT2100	Job Planning
		LT1240	Plan Reading
		LT2200	Estimating
5.03	Participates in job planning activities.	LT1100	Safety
		LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT2200	Estimating
		LT1300	Site Layout, Surveying and Grading
5.04	Prepares site.	LT1100	Safety
		CM2150	Workplace Communications
		LT1110	Hand and Power Tools
		LT2100	Job Planning
		LT1240	Plan Reading
		LT1300	Site Layout and Surveying
Task 6 - Installs softscape.			
6.01	Installs erosion control materials.	LT1130	Vehicles, Equipment and Machinery
		LT1240	Plan Reading
		LT1300	Site Layout and Surveying
6.02	Installs growing media.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1240	Plan Reading
		LT2230	Plant Inventory Management
		LT1280	Plant Installation
		LT1230	Fertilizers

2010 NOA Tasks and Sub-task		2011 POT	
		LT1290	Turf Establishment
		LT1300	Site Layout and Surveying
6.03	Installs interior landscape plants.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1240	Plan Reading
		LT1280	Plant Installation
		LT2230	Plant Inventory Management
		LT2220	Pruning
		LT1300	Site Layout and Surveying
		LT2160	Irrigation
		LT1270	Interior Plantscapes
6.04	Installs exterior landscape plants.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1240	Plan Reading
		LT2230	Plant Inventory Management
		LT1280	Plant Installation
		LT2220	Pruning
		LT1300	Site Layout and Surveying
		LT2160	Irrigation
6.05	Installs turf from seed.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1290	Turf Establishment
		LT2160	Irrigation
6.06	Installs sod.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1240	Plan Reading
		LT1290	Turf Establishment
		LT2160	Irrigation
6.07	Installs mulch.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1240	Plan Reading
		LT2230	Plant Inventory Management
		LT1280	Plant Installation

2010 NOA Tasks and Sub-task		2011 POT	
Task 7 - Installs hardscape.			
7.01	Installs drainage systems.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1240	Plan Reading
		LT1300	Site Layout and Surveying
7.02	Installs landscape structures.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1240	Plan Reading
		LT1300	Site Layout and Surveying
		LT2150	Landscape Pavers
		LT2120	Landscape Walls
		LT2130	Concrete Construction
		LT2140	Wood Construction
		LT2180	Water Features and Low Voltage Landscape Lighting
7.03	Installs walkway, patio, driveway and parking lot materials.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1240	Plan Reading
		LT1300	Site Layout and Surveying
		LT2150	Landscape Pavers
		LT2130	Concrete Construction
		LT2140	Wood Construction
7.04	Installs steps and retaining walls.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1240	Job Planning
		LT2100	Plan Reading
		LT1300	Site Layout and Surveying
		LT2150	Landscape Pavers
		LT2120	Landscape Walls
		LT2130	Concrete Construction
		LT2140	Wood Construction

2010 NOA Tasks and Sub-task		2011 POT	
7.05	Installs irrigation systems.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1240	Plan Reading
		LT1300	Site Layout and Surveying
		LT2160	Irrigation
7.06	Installs water features.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1240	Plan Reading
		LT2230	Plant Inventory Management
		LT1300	Site Layout and Surveying
		LT2180	Water Features and Low Voltage Landscape Lighting
7.07	Installs low voltage landscape lighting.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1300	Site Layout and Surveying
		LT2180	Water Features and Low Voltage Landscape Lighting
Task 8 - Maintains softscape.			
8.01	Maintains growing media.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1200	Plant Science
		LT1220	Soil Management
		LT2230	Plant Inventory Management
		LT2190	Pest and Disease Management
		LT1250	Plant Care and Maintenance

2010 NOA Tasks and Sub-task		2011 POT	
8.02	Maintains grass/turf.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1200	Plant Science
		LT2190	Pest and Disease Management
		LT1230	Fertilizers
		LT1260	Turf Maintenance
		LT1290	Turf Establishment
		LT2160	Irrigation
8.03	Maintains interior softscape.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1270	Interior Plantscapes
		LT2230	Plant Inventory Management
		LT2190	Pest and Disease Management
		LT1250	Plant Care and Maintenance
		LT2220	Pruning
		LT1230	Fertilizers
		LT2160	Irrigation
8.04	Maintains exterior softscape.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1210	Plant Identification I
		LT1211	Plant Identification II
		LT2210	Plant Identification III
		LT2230	Plant Inventory Management
		LT1250	Plant Care and Maintenance
		LT2190	Pest and Disease Management
		LT2220	Pruning
		LT1230	Fertilizers
		LT2160	Irrigation

2010 NOA Tasks and Sub-task		2011 POT	
Task 9 - Maintains hardscape.			
9.01	Maintains drainage systems.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1240	Plan Reading
		LT1300	Site Layout and Surveying
		LT2110	Site Protection, Grading and Drainage
9.02	Maintains walkways, patios, driveways and parking lots.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2150	Landscape Pavers
		LT2130	Concrete Construction
		LT2140	Wood Construction
9.03	Maintains irrigation systems.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT1210	Plant Identification I
		LT1211	Plant Identification II
		LT2210	Plant Identification III
		LT2230	Plant Inventory Management
		LT1290	Turf Establishment
		LT2160	Irrigation
9.04	Maintains landscape lighting.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2180	Water Features and Low Voltage Landscape Lighting
9.05	Maintains water features.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2230	Plant Inventory Management
		LT2180	Water Features and Low Voltage Landscape Lighting

2010 NOA Tasks and Sub-task		2011 POT	
9.06	Maintains steps and retaining walls.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2120	Landscape walls
		LT2150	Landscape Pavers
		LT2130	Concrete Construction
		LT2140	Wood Construction
9.07	Maintains landscape structures.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2120	Landscape walls
		LT2150	Landscape Pavers
		LT2130	Concrete Construction
		LT2140	Wood Construction
		LT2180	Water Features and Low Voltage Landscape Lighting

C. Program Structure

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

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

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

Program Structure

Block I				
Course No.	**IPG No.**	**Course Name**	**Hours**	**Pre-requisite(s)**
TS1510	LHT-100	Occupational Health and Safety	6	--
TS1520	LHT-100	WHIMIS	6	--
TS1530		Standard First Aid	14	--
HE1630	LHT-100	Transportation of Dangerous Goods	6	--
AJ1760	LHT-105	Chain Saw Safety	4	--
LT1100	LHT-100	Safety	9	--
LT1110	LHT-105	Hand and Power Tools	12	TS1510, TS1520, TS1530, LT1100
LT1120	LHT-350	Trade Calculations	60	**--**
LT1130	LHT-110	Vehicles, Equipment and Machinery	30	TS1510, TS1520, TS1530, HE1630, LT1100
LT1200	LHT-115	Plant Science	60	TS1510, TS1520, TS1530, LT1100
LT1210	LHT-120	Plant Identification I	60	LT1200
LT1220	LHT-125	Soil Management	60	LT1200

Block I				
Course No.	**IPG No.**	**Course Name**	**Hours**	**Pre-requisite(s)**
LT1230	LHT-130	Fertilizers	24	TS1510, TS1520, TS1530, HE1630, LT1100, LT1110, LT1120, LT1130, LT1200, LT1220
LT1240	LHT-215	Plan Reading	21	LT1120
LT1250	LHT-305	Plant Care and Maintenance	30	TS1510, TS1520 TS1530, LT1100, LT1110, LT1130, LT1200 LT1210, LT1220, LT1230
LT1260	LHT-315	Turf Maintenance	30	TS, 1510,TS1520, TS1530, LT1100, LT1110, LT1120, LT1130, LT1200 LT1220, LT1230,
LT1270	LHT-345	Interior Plantscapes	18	LT1100, LT1110, LT1200, LT1210, LT1220, LT1230, LT1240
LT1280	LHT-235	Plant Installation	30	TS1510, TS1520 TS1530, LT1100, LT1110,LT1120, LT1130, LT1200, LT1210, LT1220, LT1230, LT1240, LT1250
LT1290	LHT-240	Turf Establishment	30	TS1510,TS1520, TS1530, LT1100, LT1110, LT1120, LT1130, LT1200, LT1210, LT1220, LT1230, LT1240, LT1260

Block I				
Course No.	**IPG No.**	**Course Name**	**Hours**	**Pre-requisite(s)**
AM1100	--	Math Essentials	30	--
CM2160	--	Communication Essentials	45	--
SD1760	--	Workplace Essentials	45	--
MC1060	--	Computer Essentials	15	--
AP1101	--	Introduction to Apprenticeship	15	--
		Total Hours	**630**	

Required Work Experience

***A student who can meet the Mathematics requirement through an ACUPLACER® test may be exempted from AM1100 Math Essentials. Please check with your training institution.**

Block II				
Course No.	**IPG No.**	**Course Name**	**Hours**	**Pre-Requisite(s)**
LT1300	LHT-140	Site Layout and Surveying	30	Block I
LT2100	LHT-220	Job Planning	30	Block I
LT2110	LHT-225	Site Protection, Grading and Drainage	30	Block I
LT1211	LHT-200	Plant Identification II	30	Block I
LT2120	LHT-325	Landscape Walls	30	Block I
LT2130	LHT-330	Concrete Construction	30	Block I
LT2140	LHT-335	Wood Construction	30	Block I
LT2150	LHT-245	Landscape Pavers	30	Block I
		Total Hours	**240**	

Required Work Experience

Block III				
Course No.	**IPG No.**	**Course Name**	**Hours**	**Pre-Requisite(s)**
LT2210	LHT-300	Plant Identification III	30	Block II
LT2160	LHT-320	Irrigation	30	Block II
LT2170	LHT-210	Trade Related Documents	18	Block II
LT2180	LHT- 340	Water Features and Low Voltage Landscape Lighting	30	Block II
LT2190	LHT-205	Pest and Disease Management	42	Block II
LT2200	LHT-350	Estimating	30	Block II
LT2220	LHT-310	Pruning	30	Block II
LT2230	LHT-230	Plant Inventory Management	30	Block II
		Total Hours	**240**	

Total Course Credit Hours	**1200**

BLOCK I

TS1510 Occupational Health and Safety

Learning Outcomes:

- Demonstrate knowledge of interpreting the Occupational Health and Safety Act, laws and regulations.
- Demonstrate knowledge of understanding the designated responsibilities within the laws and regulations such as the right to refuse dangerous work; and the importance of reporting accidents.
- Demonstrate knowledge of how to prevent accidents and illnesses.
- Demonstrate knowledge of how to improve health and safety conditions in the workplace.

Duration: 6 Hours

Pre-requisite(s): None

Objectives and Content:

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

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

3. Explain the purpose of joint health and safety committees.
   i. formation of committee

ii. functions of committee
iii. legislated rights
iv. health and safety representation
v. reporting endangerment to health
vi. appropriate remedial action
vii. investigation of endangerment
viii. committee recommendation
ix. employer's responsibility in taking remedial action

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

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

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

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

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

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

Practical Requirements:

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

2. Conduct a safety inspection of shop area.

TS1520 Workplace Hazardous Materials Information System (WHMIS)

Learning Outcomes:

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

Duration: 6 Hours

Pre-requisite(s): None

Objectives and Content:

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

2. Examine hazard identification and ingredient disclosure.
   - i. prohibited, restricted and controlled products
   - ii. classification and the application of WHMIS information requirements
   - iii. responsibilities for classification
     - the supplier
     - the employer
     - the worker - Classification: rules and criteria
     - information on classification
     - classes, divisions and subdivision in WHMIS
     - general rules for classification
     - class A - compressed gases
     - class B - flammable and combustible materials
     - class C - oxidizing material
     - class D - poisonous and infectious material
     - class E - corrosive material
     - class F - dangerously reactive material
   - iv. products excluded from the application of WHMIS legislation

- consumer products
- explosives
- cosmetics, drugs, foods and devices
- pest control products
- radioactive prescribed substances
- wood or products made of wood
- manufactured articles
- tobacco or products of tobacco
- hazardous wastes
- products handled or transported pursuant to the Transportation of
- Dangerous Goods (TDG) Act

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

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

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

Practical Requirements:

1. Locate WHMIS label and interpret the information displayed.

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

TS1530 Standard First Aid

Learning Outcomes:

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

Duration: 14 Hours

Pre-requisite(s): None

Objectives and Content:

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

HE1630 Transportation of Dangerous Goods

Description:

The Transportation of Dangerous Goods Act Regulations is a comprehensive body of legislation that governs the handling, offering for transport and transporting of dangerous goods in Canada.

Transport Canada, based on risks, develops safety standards and regulations, provides oversight and gives expert advice (through the Canadian Transport Emergency Centre - CANUTEC) on dangerous goods accidents to promote public safety in the transportation of dangerous goods by all modes of transport in Canada.

Learning Outcomes:

1. To provide information regarding the Training Certificate requirements.

2. A person who handles, offers for transport or transports dangerous goods must:
   i. be adequately trained and hold a training certificate in accordance with TDG regulations
   ii. perform those activities in the presence and under the direct supervision of a person who is adequately trained and who holds a training certificate in accordance with TDG regulations.

3. An employer must not direct or allow an employee to handle, offer for transport or transport dangerous goods unless the employee:
   i. is adequately trained and holds a training certificate in accordance with TDG regulations ; or
   ii. perform those activities in the presence and under the direct supervision of a person who is adequately trained and who holds a training certificate in accordance with TDG regulations.

Duration: 6 Hours

Pre-requisites: None

Objectives and Content:

A person is adequately trained, as per Transport Canada regulations, if the person has a sound knowledge of all the topics listed below as it relates to the person's duties and to the dangerous goods the person is expected to handle, offer for transport or transport:

1. The classification criteria and test methods in "Classification".

2. Shipping names.

3. The use of Schedules 1, 2 and 3.

4. The shipping document and train consist of requirements in "Documentation".

5. The dangerous goods safety marks requirements in "Dangerous Goods Safety Marks".

6. The certification safety marks requirements, safety requirements and safety standards in "Means of Containment".

7. The emergency response assistance plan requirements in "Emergency Response Assistance Plan".

8. The report requirements in "Accidental Release and Imminent Accidental Release Report Requirements".

9. Safe handling and transportation practices for dangerous goods, including the characteristics of the dangerous goods.

10. The proper use of any equipment used to handle or transport the dangerous goods.

11. The reasonable emergency measures the person must take to reduce or eliminate any danger to public safety that results or may reasonably be expected to result from an accidental release of the dangerous goods.

12. For air transport, the aspects of training set out in "Training – General" by the ICAO Technical Instructions for the persons named in that Chapter and the requirements in "Air" of these Regulations; and SOR/2002-306 (*The ICAO Technical Instructions require the approval of training programs for air carriers.*

Information may be obtained from the Chief, Dangerous Goods Standards, Civil Aviation, Transport Canada).

13. For marine transport, the requirements set out in the IMDG Code and the "Dangerous Goods Shipping Regulations", as applicable, and the requirements in "Marine" of these Regulations.

Practical Requirements:

1. Students will complete the exercises and write an exam using the TDG Guide as a reference. http://www.tc.gc.ca/tdg/clear/part6.htm#sec61

AJ1760 Chain Saw Safety

Learning Outcomes:

- Demonstrate knowledge of types of chain saws.
- Demonstrate knowledge of how to safely operate a chain saw.

Duration: 4 Hours

Prerequisites: None

Objectives and Content:

1. Identify the types of chain saws.

2. Describe the safe operation, maintenance and storage of chain saws.

Practical Requirements:

1. Identify and select required safety equipment.

2. Demonstrate safe operation of a chain saw.

3. Demonstrate safe maintenance of a chain saw.

4. Demonstrate safe storage of a chain saw.

LT1100 Safety

Learning Outcomes:

- Demonstrate knowledge of safety equipment, their applications,
- maintenance and procedures for use.
- Demonstrate knowledge of safe work practices.
- Demonstrate knowledge of regulatory requirements pertaining to safety.
- Demonstrate knowledge of Back Injury Prevention Awareness.

Duration: 9 Hours

Pre-requisites: None

Objectives and Content:

1. Identify types of personal protective equipment and clothing (PPE) and describe their applications.

2. Describe the procedures for care and maintenance of PPE.

3. Identify hazards and describe safe work practices and equipment.
   i. personal
   ii. workplace
   iii. environment
   iv. pedestrian and vehicular

4. Identify and describe workplace safety and health regulations.
   i. Pest Management Regulatory Agency (PMRA)
   ii. pesticide applicator and operator legislation

Practical Requirements:

1. Complete a Back Injury Prevention Awareness course.

LT1110 Hand and Power Tools

Learning Outcomes:

- Demonstrate knowledge of hand, power and measuring tools and equipment, their applications, maintenance and procedures for use.

Duration: 12 Hours

Pre-requisites: TS1510, TS1520, TS1530, LT1100

Objectives and Content:

1. Identify hazards and describe safe work practices pertaining to tools and equipment.

2. Describe the implications of hand and power tool selection and use on the practice of environmental stewardship.

3. Identify types of hand tools and describe their applications and procedures for use.

4. Describe the procedures used to inspect, maintain, sharpen, clean and store hand tools.

5. Identify types of power equipment and describe their applications, limitations and procedures for use.
   i. electric
   ii. gas
      - two cycle engine
      - Four cycle engine

6. Describe the safe operation, maintenance and storage of cutting equipment
   i. chain saw
   ii. circular saw
   iii. concrete saw
   iv. mitre/chop saw
   v. reciprocating saw

vi. sabre saw
vii. table saw

7. Describe the daily/seasonal operating procedures used to inspect, maintain, sharpen, clean, and store power tools.

8. Identify types of measuring tools and equipment and describe their applications and procedures for use.

9. Describe the procedures used to inspect, clean, maintain and store measuring tools and equipment.

Practical Requirements:

1. Use various types of hand tools.

2. Maintain various types of hand tools.

3. Use various types of power tools.

4. Maintain various types of power tools.

LT1120 Trade Calculations

Learning Outcomes:

- Develop numeracy skills and knowledge required for institutional and on-the-job learning.
- Develop the capacity to apply mathematical concepts in the performance of trade practices.
- Develop an appreciation for mathematics as a critical element of the learning environment.
- 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.
- Use linear, area and volume calculations in both imperial and metric systems of measurement.
- Demonstrate how to calculate basic qualities required for safe, efficient and productive job performance.

Duration: 60 Hours

Prerequisites: None

Objectives and Content:

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. Perform Imperial/Metric conversions.

9. Define and demonstrate the formulation of variables.

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

11. Perform linear, area and volume calculations in both imperial and metric systems of measurement.
    i. calculator usage
    ii. exponential notation
    iii. percentage calculations
    iv. ratios
    v. linear measurement -formula -Pythagorean Theorem -3-4-5 triangle
    vi. area measurement formula
    vii. volume measurement-formula
    viii. systems of measurement-metric-FPS (Imperial)-decimal feet-system conversions

12. Demonstrate the use of measuring devices employed in the horticulture industry.

13. Demonstrate the function and process of determining ground elevations and slopes.
    i. surveyor's rod and chain
    ii. bench marks
    iii. spot elevations
    iv. back sights
    v. fore sights
    vi. slope calculations

14. Calculate basic qualities necessary for job performance.
    i. pesticide calculations(application areas, active ingredients, product quantities, application rates)
    ii. other basic applied calculations (seeding calculations, topdressing calculations, fertilizing calculations, mulching quantities, unit area quantities, unit volume quantities, plant material quantities, loss/shrinkage factors

LT1130 Vehicles, Equipment and Machinery

Learning Outcomes:

- Demonstrate knowledge of vehicles/trailers, equipment and machinery, and their applications, operation and procedures for use.

Duration: 30 Hours

Pre-requisites: TS1510, TS1520, TS1530, HE1630, LT1100

Objectives and Content

1. Identify hazards and describe safe work practices pertaining to vehicles/trailers, equipment and machinery.
   i. lockout/tagout

2. Describe the implications of vehicle, equipment and machinery selection and use on the practice of environmental stewardship.

3. Interpret codes and regulations pertaining to vehicles/trailers, equipment and machinery.

4. Identify types of engines and describe their characteristics, applications and operation.
   i. gasoline/propane
   ii. diesel
   iii. electric

5. Identify basic vehicle systems and components and describe their characteristics and operation.
   i. drive systems
   ii. brakes
   iii. control/safety systems

6. Describe the daily/seasonal operating procedures used to inspect, clean and maintain engines.
   i. safety checks
   ii. manufacturer's specifications/operators equipment manual (OEM)

7. Identify types of equipment and machinery and describe their characteristics, applications and operation.
   i. components
   ii. attachments

8. Describe the daily/seasonal operating procedures used to inspect, maintain, clean and store equipment and machinery.
   i. pre-check
   ii. post check

9. Describe the procedures used to load/unload, secure and transport tools, equipment and machinery.

10. Describe the daily/seasonal operating procedures used to inspect, maintain, clean and store vehicles/trailers.
    i. pre-trip
    ii. post-trip

11. Describe safe operating procedures when hauling a trailer.

Practical Requirements:

1. Conduct a scheduled maintenance procedure on a 2 cycle machine.

2. Conduct a scheduled maintenance procedure on a 4 cycle machine.

3. Conduct a non-scheduled maintenance procedure on a 2 cycle machine

4. Conduct a non-scheduled maintenance procedure on a 4 cycle machine.

5. Conduct non-scheduled maintenance procedures for landscape tools and equipment.

6. Demonstrate the proper use of fire extinguishers.

7. Demonstrate the use and operation of a truck and trailer.
   i. coupling and uncoupling
   ii. loading, securing, unloading
   iii. safe driving
   iv. backing-up

8. Conduct pre-check inspections.

9. Conduct post-trip inspections.

LT1200 Plant Science

Learning Outcomes:

- Demonstrate knowledge of plant growth and development.
- Demonstrate knowledge of plant nutrient requirements.

Duration: 60 Hours

Pre-requisites: TS1510, TS1520, TS1530, LT1100

Objectives and Content:

1. Define terminology associated with plant science.

2. Identify the factors which impact on plant growth and development.
   - i. temperature
   - ii. hardiness
   - iii. growing medium
   - iv. air quality
     - carbon dioxide
     - oxygen
     - humidity
   - v. light
   - vi. water
   - vii. pests and disease
   - viii. environmental stresses
   - ix. plant life cycle

3. Identify plant anatomy and morphology.
   i. cell types
   ii. tissues
   iii. organs
      - leaves
      - stems
      - roots
      - flowers
      - fruits
      - seeds

4. Explain the function of a plant as an organism.
   i. reproduction
   ii. photosynthesis
   iii. respiration
   iv. transpiration
   v. hormones
   vi. dormancy

5. Identify plant nutrients and describe the impact of nutrient deficiencies/excess on plants and plant growth.

Practical Requirements:

1. Labs to be determined by the course instructor.

LT1210 Plant Identification I

Learning Outcomes:

- Demonstrate knowledge of the International System of Plant Nomenclature used for plant identification.

Duration: 60 Hours

Pre-requisites: LT1200

Objectives and Content:

1. Explain the International System of Plant Nomenclature and its use in plant identification.
   i. family
   ii. genus
   iii. species
   iv. variety/cultivar
   v. common name
   vi. nursery trademarks

2. Interpret the use of dichotomous keys to classify plants.

3. Identify plant categories and describe their characteristics.
   i. herbaceous
   ii. woody
   iii. annual
   iv. perennial
   v. biennial

4. Use plant morphology to categorize a plant to the family level.
   i. leaves/needles
   ii. flowers/fruits/seeds
   iii. buds
   iv. bark
   v. growth habit

5. Use plant morphology to categorize the plants on the list to the genus and species level.
   i. leaves/needles
   ii. flowers/fruits/seeds
   iii. buds
   iv. bark
   v. growth habits

6. Describe the cultural requirements of these plants (see chart below).
   i. moisture
   ii. light
   iii. soil type
   iv. hardiness
   v. nutrients
   vi. propagation
   vii. salt tolerance
   viii. pruning times

7. Identify the considerations for the selection of these plants for specific uses.
   i. residential applications
   ii. commercial applications
   iii. reclamation/restoration
   iv. location and environment

8. Select plants for specific applications.

Landscape Horticulturist Plant List by Family

	FAMILY	Latin name	Common name	Character
1	ASTERACEAE	Gerbera jamesonii	Transvaal Daisy	Annual
2	ASTERACEAE	Aster spp.	Common Aster	Perennial
3	ASTERACEAE	Leucanthemum x superbum	Shasta Daisy	Perennial
4	ASTERACEAE	Rudbeckia fulgida	Black Eyed Susan	Perennial
5	BERBERIDACEAE	Berberis thunbergii	Japanese Barberry	Tree / Shrub

6	BETULACEAE	Betula papyrifera	Paper Birch	Tree / Shrub
7	BRASSICACEAE	Lobularia maritima	Alyssum	Annual
8	BRASSICACEAE	Iberis sempervirens	Candytuft	Perennial
9	CAPRIFOLIACEAE	Lonicera x brownii 'Dropmore Scarlet'	Scarlet Trumpet Honeysuckle	Tree / Shrub
10	CAPRIFOLIACEAE	Symphoricarpos albus	Snowberry	Tree / Shrub
11	CARYOPHYLLACEAE	Dianthus chinensis	Dianthus / China Pink	Annual
12	CELASTRACEAE	Euonymus alatus	Winged Burning Bush	Tree / Shrub
13	CRASSULACEAE	Sedum spectabile	Stonecrop	Perennial
14	CUPRESSACEAE	J junipers horizontalis	Horizontal Juniper	Tree / Shrub
15	CUPRESSACEAE	Thuja occidentalis	Eastern White Cedar	Tree / Shrub
16	CUPRESSACEAE	Taxus x media	Yew	Tree / Shrub
17	ERICACEAE	Arctostaphylos uva-ursi	Bearberry / Kinnikinnick	Tree / Shrub
18	FUMARIACEAE	Dicentra spectabilis	Bleeding Heart	Perennial
19	GERANIACEAE	Pelargonium spp.	Geranium	Annual
20	LAMIACEAE	Salvia splendens	Scarlet Sage	Annual
21	LAMIACEAE	Monarda didyma	Bee Balm	Perennial
22	LILIACEAE	Hemerocallis spp.	Daylily	Perennial
23	LILIACEAE	Hosta spp.	Hosta	Perennial
24	OLEACEAE	Syringa vulgaris	Common Lilac	Tree / Shrub
25	PINACEAE	Picea glauca	White Spruce	Tree / Shrub
26	PINACEAE	Pinus mugo	Mugo Pine, Swiss MountainPine	Tree / Shrub
27	POACEAE	Miscanthus sinensis	Maiden Grass	Perennial
28	POACEAE	Calamagrostis x acutiflora	Feather Reed Grass	Perennial

29	POLYPODIACEAE	Matteuccia struthiopteris	Ostrich Fern	Perennial
30	RANUNCULACEAE	Delphinium elatum	Perennial Larkspur	Perennial
31	RANUNCULACEAE	Trollius europaeus	Globeflower	Perennial
32	ROSACEAE	Amelanchier alnifolia	Service Berry	Tree / Shrub
33	ROSACEAE	Rosa rugosa	Rugosa Rose	Tree / Shrub
34	ROSACEAE	Sorbus aucuparia	European Mountain Ash	Tree / Shrub
35	ROSACEAE	Spiraea japonica	Japanese Spirea	Tree / Shrub
36	SALICACEAE	Populus tremuloides	Trembling Aspen	Tree / Shrub
37	SAPINDACEAE	Acer ginnala	Amur Maple	Tree / Shrub
38	SAPINDACEAE	Acer saccharinum	Silver Maple	Tree / Shrub
39	TILIACEAE	Tilia cordata	Little Leaf Linden	Tree / Shrub
40	VITACEAE	Parthenocissus quinquefolia	Virginia Creeper	Tree / Shrub
41	PLANTS GROWN IN THE NL LANDSCAPE			

Practical Requirements:

1. Complete the following labs.
   i. Identify plants using the international system of plant nomenclature.
   ii. Identify plants for landscape installation according to site location and degree of sun and shade.
   ii. Other as deemed by the course instructor.

LT1220 Soil Management

Learning Outcomes:

- Demonstrate knowledge of soil types and soil amendments.

Duration: 60 Hours

Pre-requisites: LT1200

Objectives and Content:

1. Identify physical soil characteristics that must be considered when determining the suitability for plant growth.
   i. soil formation
   ii. drainage
   iii. aeration/porosity
   iv. water retention
   v. compaction
   vi. soil texture/structure

2. Describe the implications of soil management on the practice of environmental stewardship.

3. Identify types of media and describe their characteristics and applications.
   i. native soil
   ii. soil-less medium
   iii. manufactured soil
   iv. compost

4. Identify the soil characteristics that impact soil chemical and biological properties.
   i. nutrient availability
   ii. chemical composition
      - soil acidity/alkalinity
      - soil salinity
      - cation exchange capacity
   iii. organic matter
   iv. biological activity

5. Explain the procedures used for taking soil samples.

6. Identify types of soil tests and describe their characteristics and applications.

7. Identify types of soil amendments and describe their characteristics and applications.
   i. organic
   ii. inorganic

8. Identify the considerations when selecting soil amendments for plants.

9. Describe the procedures used to apply and/or incorporate soil amendments.

10. Describe the procedures used to store, transport and dispose of soil and soil amendment products and packaging.

11. Select and incorporate soil amendments.

Practical Requirements:

1. Take a soil sample.

2. Hand texture a soil sample.

3. Interpret soil sample test results.

LT1230 Fertilizers

Learning Outcomes:

- Demonstrate knowledge of the codes and regulations pertaining to fertilizers.
- Demonstrate knowledge of the characteristics of fertilizers.
- Demonstrate knowledge of the procedures and equipment used for the application, handling, transport, storage and disposal of fertilizers.

Duration: 24 Hours

Pre-requisites: TS1510, TS1520, TS1530, HE1630, LT1100, LT1110, LT1120, LT1130, LT1200, LT1220

Objectives and Content:

1. Define terminology associated with fertilizers**.**

2. Identify hazards and describe safe work practices pertaining to fertilizers and their use.

3. Describe the implications of fertilizer management on the practice of environmental stewardship.

4. Identify types of fertilizers and describe their characteristics and applications.

5. Interpret codes and regulations pertaining to fertilizers.

6. Describe the analysis and formulation of fertilizers.

7. Describe the procedures and equipment used for the application of fertilizers.

8. Describe the procedures and equipment used to store, dispose and transport fertilizers.

Practical Requirements:

1. Calibrate application equipment.

2. Calculate application rate as per specifications

LT1240 Plan Reading

Learning Outcomes:

- Demonstrate knowledge of landscape plans and associated documentation.

Duration: 21 Hours

Pre-requisites: LT1120

Objectives and Content:

1. Identify types of landscape plans and documentation and describe their characteristics and applications.

2. Interpret information and design principles on landscape plans.
   - i. title block
   - ii. legend
   - iii. scale
   - iv. symbols
   - v. elements
   - vi. hazards
   - vii. details
   - viii. plant material
     - colour
     - texture
     - scale
     - form
   - ix. scope of work
   - x. site access
   - xi. work/site limits

3. Interpret information on specifications.
   - i. general conditions
   - ii. supplementary conditions
   - iii. contract personnel

4. Interpret and extract information from landscape plans and documentation.

Practical Requirements:

1. Interpret landscape construction plans.

2. Interpret landscape specifications.

LT1250 Plant Care and Maintenance

Learning Outcomes:

- Demonstrate the knowledge of the procedures to care and maintain herbaceous and woody plant materials.
- Demonstrate the knowledge of procedures to care and maintain interior plants.

Duration: 30 Hours

Pre-requisites: TS1510, TS1520, TS1530, LT1100, LT1110, LT1120, LT1130, LT1200, LT1210, LT1220, LT1230

Objectives and Content:

1. Identify hazards and describe safe work practices pertaining to the care and maintenance of plants.

2. Describe the implications of plant care and maintenance on the practice of environmental stewardship.

3. Identify specific tools and equipment relating to care and maintenance and describe their applications and procedures for use.

4. Describe the procedures used to maintain all plant materials.
   i. dead-heading
   ii. edging
   iii. cultivating
   iv. mulching
   v. dividing

5. Describe the procedures used for winterization of plant materials.
   i. wrapping/screening
   ii. rodent protection
   iii. bed cleaning
   iv. cutting back
   v. mulching

6. Describe the procedures used for recycling and disposing of related waste materials.

Practical Requirements:

1. Select tools and equipment.

2. Maintain tools and equipment.

3. Clean tools and equipment.

4. Prepare a seasonal planting area.

5. Maintain a local garden.

LT1260 Turf Maintenance

Learning Outcomes:

- Demonstrate knowledge of turf equipment and its care and maintenance.

- Demonstrate knowledge of maintenance practices and procedures.

Duration: 30 Hours

Pre-requisites: TS1510, TS1520, TS1530, LT1100, LT1110, LT1120, LT1130, LT1200, LT1220, LT1230

Objectives and Content:

1. Define terminology associated with turf maintenance.

2. Identify hazards and describe safe work practices pertaining to turf maintenance.

3. Describe the implications of turf maintenance on the practice of environmental stewardship.

4. Interpret and complete documentation relating to turf maintenance.

5. Identify specific tools and equipment relating to turf maintenance and describe their applications and procedures for use.

6. Identify the considerations when determining turf maintenance techniques
   i. grass type
   ii. site use
   iii. site size
   iv. cultural requirements

7. Describe the procedures used to inspect and maintain turf maintenance equipment.

8. Identify the considerations for equipment operation on turf.
   i. surface slope
   ii. obstructions
      - permanent
      - portable
   iii. site conditions
   iv. turf use

9. Describe the procedures used to maintain turf.
   i. mowing
   ii. fertilizing
   iii. irrigation
   iv. cultivation
      - aeration
      - dethatching
   v. top dressing
   vi. over seeding
   vii. edging/trimming

10. Identify possible turf problems and describe their causes and the procedures used to correct them.
   i. compaction
   ii. thatch build-up
   iii. poor drainage
   iv. winter kill
   v. pests
      - weeds
      - insects
      - diseases
      - animals
   vi. shade

Practical Requirements:

1. Select a lawn area.
   i. diagnose turf problems
   ii. implement procedures to correct them.

2. Implement turf maintenance procedures.
   i. mow
   ii. aerate
   iii. dethatch
   iv. top dress
   v. over-seed

LT1270 Interior Plantscapes

Learning Outcomes:

- Demonstrate knowledge of interior plants, their characteristics and cultural requirements.
- Demonstrate knowledge of the procedures to install and maintain interior plantscapes.

Duration: 18 Hours

Pre-requisites: LT1100, LT1110, LT1200, LT1210, LT1220, LT1230, LT1240

Objectives and Content:

1. Define terminology associated with interior plantscaping.

2. Identify hazards and describe safe work practices pertaining to interior plantscaping.

3. Interpret codes and regulations pertaining to interior plantscaping.

4. Describe the implications of interior plantscaping on the practice of environmental stewardship.

5. Interpret and complete documentation pertaining to interior plantscaping.

6. Identify specific tools and equipment relating to interior plantscaping, their applications and procedures for use.

7. Use plant morphology to categorize the plants on the list to the genus and species level.
   i. leaves/needles
   ii. flowers/fruits/seeds
   iii. buds
   iv. bark
   v. growth habits

8. Describe the cultural requirements of these plants (see chart below).
   i. moisture
   ii. light
   iii. soil type
   iv. hardiness
   v. nutrients
   vi. propagation
   vii. salt tolerance

9. Identify the considerations for the selection of these plants for specific interior uses.

10. Describe the procedures used to install and maintain interior plants.

Landscape Horticulturist Plant List by Family

	FAMILY	Latin name	Common name	Character
1	AGAVACEAE	Dracaena marginata	Dragon Tree	Tropical / Indoor
2	AGAVACEAE	Aloe vera	Healing Plant	Tropical / Indoor
3	ARACEAE	Dieffenbachia amoena	Dumb Cane	Tropical / Indoor
4	ARACEAE	Epipremnum aureum	Pothos / Devil's Ivy	Tropical / Indoor
5	ARACEAE	Monstera deliciosa	Monster Plant	Tropical / Indoor
6	ARACEAE	Philodendron selloum	Tree Philodendron	Tropical / Indoor
7	ARACEAE	Spathiphyllum cannifolium	Peace Lily	Tropical / Indoor
8	ARALIACEAE	Hedera helix	English Ivy	Tropical / Indoor
9	ARALIACEAE	Schefflera arboricola	Hawaiian Elf Schefflera	Tropical / Indoor

10	ARAUCARIACEAE	Araucaria heterophylla	Norfolk (Island) Pine	Tropical / Indoor
11	CRASSULACEAE	Crassula ovata	Jade Plant	Tropical / Indoor
12	EUPHORBIACEAE	Codiaeum variegatum var. pictum	Croton	Tropical / Indoor
13	MORACEAE	Ficus benjamina	Weeping Fig	Tropical / Indoor
14	MORACEAE	Ficus elastica	India Rubber Plant / Rubber Tree	Tropical / Indoor

Practical Requirements:

1. Cultivate interior plant materials.

2. Groom interior plant materials.

3. Monitor interior plant health issues.

LT1280 Plant Installation

Learning Outcomes:

- Demonstrate the knowledge of the procedures used to install herbaceous and woody plant materials.

Duration: 30 Hours

Pre-requisites: TS1510, TS1520, TS1530**,** LT1100, LT1110, LT1120, LT1130, LT1200, LT1210, LT1220, LT1230, LT1240, LT1250

Objectives and Content:

1. Identify hazards and describe safe work practices pertaining to the installation of woody plants.

2. Describe the implications of plant installation on the practice of environmental stewardship.

3. Identify specific tools and equipment relating to plant material installation and describe their applications and procedures for use.

4. Identify the considerations for determining suitability of planting site for plant materials.
   i. sun and wind exposure
   ii. water availability
   iii. quality of growing medium
   iv. site accessibility
   v. proximity to buildings and utility services
   vi. air quality and pollutants

5. Describe the installation procedures for a variety of root preparations and stock types.
   i. bare root
   ii. ball and burlap/wire basket
   iii. containerized
   iv. caliper stock

6. Describe the procedures used to prepare planting site for tree installation.
   i. excavation
   ii. planting pit dimensions
   iii. soil amendment
   iv. site drainage

7. Describe the procedures used to install trees.
   i. placement
   ii. loosening of root containment
   iii. root placement
   iv. backfilling
   v. mulching
   vi. machine-planting
   vii. stabilizing
   viii. fertilizing

8. Describe the procedures used for post-planting care of trees.
   i. irrigation
   ii. pruning
   iii. fertilizing
   iv. protecting
   v. stabilizing
   vi. mulching

9. Describe the procedures used to prepare planting beds for herbaceous and woody plant material installation.
   i. bed cultivation
   ii. incorporating soil amendment
   iii. removal of weeds/debris
   iv. bed edging
   v. grading and drainage

10. Describe the procedures used to install herbaceous and woody plant materials.
    i. bed layout
    ii. plant placement
    iii. loosening of root containment
    iv. root placement
    v. backfilling
    vi. irrigation
    vii. fertilizing
    viii. mulching

11. Describe the procedures used to transplant herbaceous and woody plant materials.

Practical Requirements:

1. Select plant materials.

2. Prepare plant materials.

3. Install plant materials.

4. Transplant plant materials.

5. Stabilize trees.

6. Mulch trees.

LT1290 Turf Establishment

Learning Outcomes:

- Demonstrate knowledge of turf establishment methods and their associated procedures.

Duration: 30 Hours

Pre-requisites: TS1510, TS1520, TS1530**,** LT1100, LT1110, LT1120, LT1130, LT1200, LT1210, LT1220, LT1230, LT1240, LT1260

Objectives and Content:

1. Define terminology associated with turf establishment.

2. Describe the implications of turf establishment on the practice of environmental stewardship.

3. Identify the grass species that are sustainable in various jurisdictions.

4. Identify the considerations when selecting turf grass types.
   i. environmental conditions
   ii. site use
   iii. site size
   iv. cultural requirements

5. Interpret and complete documentation relating to turf establishment.

6. Identify specific tools and equipment relating to turf establishment and describe their applications and procedures for use.

7. Identify the methods of turf establishment and describe their applications.
   i. seeding
   ii. sodding

8. Describe the procedures used to establish turf by seeding.

9. Describe the procedures used to establish turf by sodding.

10. Identify the methods used for post-establishment care of seeded and sodded turf and describe their applications.

11. Identify possible turf establishment problems and describe solutions.

12. Describe the procedures used for harvesting and post-harvest handling of sod.

Practical Requirements:

1. Prepare turf with seed.

2. Install turf with seed.

3. Prepare turf with sod.

4. Install turf with sod.

AP1101 Introduction to Apprenticeship

Learning Outcomes:

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

Duration: 15 Hours

Pre-Requisite(s): None

Objectives and Content:

1. Define the following terms:
   - i. apprenticeship
   - ii. apprentice vs. registered apprentice
   - iii. Journeyperson vs. Certified Journeyperson
   - iv. Certificate of Apprenticeship
   - v. Certificate of Qualification
   - vi. Recognition of Prior Learning
   - vii. dual certification

2. Explain the apprenticeship system in Newfoundland and Labrador and the roles and responsibilities of those involved.
   - i. registered apprentice
   - ii. training institution
   - iii. employer
   - iv. Journeyperson
   - v. Department of Advanced Education and Skills
     - Industrial Training Section
     - Standards and Curriculum Section
   - vi. Provincial Trade Advisory Committees
   - vii. Provincial Apprenticeship and Certification Board

3. Identify the Conditions Governing Apprenticeship.

4. Describe the training and educational requirements.
   i. pre-employment (entry level) training
   ii. block release
   iii. on-the-job

5. Explain the steps in the registered apprenticeship process.
   i. criteria for eligibility
      - entrance requirements as per Conditions of Apprenticeship
      - employment
   ii. registration process
      - application requirements
   iii. Memorandum of Understanding
      - probation period
      - cancellation
   iv. Record of Occupational Progress (Logbook)
      - signing off skills
      - recording hours
      - updating PDO on progress
   v. class calls
      - schedule
      - EI Eligibility
      - Direct Entry
      - advanced level
   vi. Block Exams
   vii. progression
      - schedule
      - wage rates
   viii. cancellation of apprenticeship
   ix. Practical Examinations
   x. Provincial and Interprovincial examinations
   xi. certification
      - Certification of Apprenticeship
      - Certification of Qualification
      - Provincial certification
      - Interprovincial Red Seal endorsement

6. Explain the Interprovincial Standards Red Seal Program.
   i. designated Red Seal trade
   ii. the National Occupational Analysis (NOA)
   iii. Interprovincial (IP) Red Seal Endorsement Examination
   iv. relationship of NOA to IP Examination
   v. qualification recognition and mobility

7. Identify the current financial incentives available to apprentices.

8. Explain the NL apprenticeship and trades certification division's out-of- province apprenticeship policy.

Practical Requirements:

1. Use the Provincial Apprenticeship and Trades Certification web site at www.gov.nl.ca/app to:
   i. locate, download, and complete the Application for Apprenticeship and Memorandum of Understanding (MOU)
   ii. locate, download, and complete the Out of Province registration forms
      - Application for Apprenticeship (out of province)
      - Letter of Understanding (LOU)
      - Acceptance of Conditions Letter
   iii. locate, download, and complete the Work Experience Credits form
   iv. identify the locations of all Industrial Training offices
   v. locate and review the following learning resources relevant to the trade:
      - Study Guide
      - Exam Preparation Guide
      - Plan of Training

2. Use a logbook for this trade to:
   i. identify the hours for the trade (in-school and on-the-job)
   ii. identify the number of blocks
   iii. identify the courses in each block
   iv. identify the workplace skills to be completed and verified

3. Use the Red Seal Web site, http://www.red-seal.ca to retrieve the National Occupational Analyses (NOA) for this trade.
   i. identify the following components of the NOA:
      - Trends
      - Scope
      - Key Competencies
      - Blocks
      - Tasks
      - Subtasks
      - Pie Charts
      - Table of Specifications

AM1100 Math Essentials

Note: It is recommended that AM1100 be delivered in the first semester of the Entry Level training program.

Learning Outcomes:

- Demonstrate knowledge of the numeracy skills required to begin the 2nd level math course.
- Demonstrate knowledge of mathematics as a critical element of the trade environment.
- Demonstrate knowledge of mathematical principles in trade problem solving situations.
- Demonstrate the ability to solve simple mathematical word problems.

Duration: 30 Hours

Pre-Requisite(s): None

Objectives and Content:

Wherever possible, the instructor should use trade specific examples to reinforce the course objectives

1. Use multiplication tables from memory.

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

3. Apply the order of operations in math problems.

4. Perform fraction and mixed number operations.
   i. read, write, add, subtract, multiply and divide fractions

5. Perform decimal operations.
   i. read, write, round off, add, subtract, multiply and divide decimals

6. Perform percent/decimal/fraction conversion and comparison.
   i. convert between fractions, decimals and percents

7. Perform percentage operations.
   i. read and write percentages
   ii. calculate base, rates and percentages

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

9. Use the imperial measurement system in math problems.
   i. identify units of measurement for:
      - length
      - mass
      - area
      - volume
      - capacity

10. Use the metric measurement system in math problems.
    i. identify units of measurement for:
       - length
       - mass
       - area
       - volume
       - capacity

Practical Requirements:

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

CM2160 Communication Essentials

Learning Outcomes:

- Demonstrate knowledge of the importance of well-developed writing skills in the workplace and in career development.
- Demonstrate knowledge of the purpose of various types of workplace correspondence.
- Demonstrate knowledge of the principles of effective workplace writing.
- Demonstrate knowledge of standard formats for letters and memos.
- Demonstrate knowledge of principles related to writing effective letters and memos.
- Demonstrate the ability to prepare and deliver an oral presentation.
- Demonstrate knowledge of the importance of effective interpersonal skills in the workplace.

Duration: 45 Hours

Pre-Requisite(s): None

Objectives and Content:

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

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

2. Identify the principles of effective workplace writing.
   i. describe the value of well-developed writing skills to career success
   ii. discuss the importance of tone, and language or word choice in workplace communication, regardless of the circumstances
   iii. demonstrate an awareness of cultural differences when preparing workplace correspondence
   iv. describe the writing process as it applies to workplace communication
      - planning
      - writing

- editing/revising

v. identify the parts of a business letter and memo, and when each should be used in the workplace

vi. identify the standard formats for business letters and memos

vii. identify guidelines for writing sample letters and memos which convey:
- acknowledgment
- routine request
- routine response
- complaint
- refusal
- persuasive request
- letters of appeal

3. Identify types of informal workplace documents.

i. identify types & purposes of reports
- incident
- process
- progress

ii. identify common trade specific forms

iii. describe primary and secondary methods used to gather information

iv. discuss the importance of accuracy and completeness in reports and forms

4. Identify the elements of presentations used in the workplace.

i. identify presentation types
- impromptu
- informative
- demonstration
- persuasive

ii. identify the components of an effective presentation
- eye contact
- body language
- vocal qualities
- audience analysis
- multimedia tools
- keeping on topic

5. Demonstrate an understanding of interpersonal communications in the workplace.
   i. identify listening techniques
   ii. demonstrate an understanding of group dynamics
   iii. describe the importance of contributing information and expertise in the workplace
   iv. describe the importance of respectful and open communication in the workplace
   v. identify methods to accept and provide feedback in a constructive and considerate manner
   vi. explain the role of conflict in a group to reach solutions

6. Identify acceptable workplace uses of communication technologies.
   i. cell / Smart Phone etiquette
   ii. voice mail
   iii. e-mail
   iv. teleconferencing / videoconferencing for meetings and interviews
   v. social networking
   vi. other emerging technologies

Practical Requirements:

1. Write well-developed, coherent, unified paragraphs.

2. Write sample letters and memos.

3. Write one short informal report.

4. Complete a selection of at least 3 trade-related forms.

5. Deliver an effective oral presentation.

SD1760 Workplace Essentials

Note: It is recommended that SD1760 be delivered in the second half of the Entry Level training program.

Learning Outcomes:

- Demonstrate knowledge of workplace essentials in the areas of meetings, unions, workers compensation, workers' rights, and human rights.
- Demonstrate knowledge of good customer service practices.
- Demonstrate knowledge of effective job search techniques.

Duration: 45 Hours

Pre-Requisite(s): None

Objectives and Content:

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

1. Identify common practices related to workplace meetings.
   i. identify and discuss meeting format and preparation required for a meeting
   ii. explain the purpose of an agenda
   iii. explain the expected roles, responsibilities, and etiquette of meeting participants

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

3. Demonstrate an understanding of the Worker's Compensation process.
   i. describe the aims, objectives, regulations and benefits of the Workplace Health, Safety and Compensation Commission
   ii. explain the role of the Workers Advisor
   iii. explain the internal review process

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

5. Demonstrate an understanding of Human Rights issues.
   i. examine the Human Rights Code and explain the role of the Human Rights Commission
   ii. define harassment in various forms and identify strategies for prevention
      - direct
      - systemic
      - adverse effect
   iii. identify gender and stereotyping issues in the workplace
   iv. define basic concepts and terms related to workplace diversity including age, race, culture, religion, socio-economic status, and sexual orientation

6. Demonstrate an understanding of quality customer service.
   i. explain why quality service is important
   ii. identify barriers to quality customer service
   iii. identify customer needs & common methods for meeting them
   iv. identify and discuss the characteristics & importance of a positive attitude
   v. identify the importance of demonstrating good communication skills including body language, listening, questioning, and when using electronic communication devices
   vi. identify techniques for interacting with challenging customers to address complaints and resolve conflict

7. Demonstrate an understanding of effective job search techniques.
   i. identify and explain employment trends, opportunities, and sources of employment
   ii. identify and discuss essential skills for the trades as outlined by Human Resources and Skills Development Canada
   iii. review job ads and identify the importance of fitting qualifications to job requirements
   iv. identify the characteristics of effective resumes, the types of resumes, and principles of resume formatting
   v. identify the characteristics of an effective cover letter
   vi. identify the components of a portfolio, and discuss the value of establishing and maintaining a personal portfolio
   vii. identify the common characteristics of the job interview process:
      - pre-interview preparation
      - interview conduct
      - post-interview follow up

Practical Requirements:

1. Create a resume.

2. Create a cover letter.

3. Participate in a mock job interview.

MC1060 Computer Essentials

Learning Outcomes:

- Demonstrate knowledge of computer systems and their operation.
- Demonstrate knowledge of popular software packages and their applications.
- Demonstrate knowledge of security issues related to computers.

Duration: 15 Hours

Pre-Requisite(s): None

Objectives and Content:

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

1. Identify the major external components of a microcomputer system.
   - i. input devices
   - ii. output devices
   - iii. central control unit

2. Use operating system software.
   - i. start and quit a program
   - ii. use the help function
   - iii. use the find function
   - iv. maximize and minimize a window
   - v. use the task bar
   - vi. adjust desktop settings such as screen savers, screen resolution, and backgrounds
   - vii. shut down a computer

3. Perform file management commands.
   i. create folders
   ii. copy files and folders
   iii. move files and folders
   iv. rename files and folders
   v. delete files and folders

4. Use word processing software to create documents.
   i. enter text
   ii. indent and tab text
   iii. change text attributes (bold, underline, font, etc.)
   iv. change layout format (margins, alignment, line spacing)
   v. spell check and proofread
   vi. edit text
   vii. save document
   viii. print document
   ix. close document
   x. retrieve documents

5. Use spreadsheet software to create spreadsheets.
   i. enter data in cells
   ii. create formulas to add, subtract, multiply and divide
   iii. save spreadsheet
   iv. print spreadsheet
   v. close spreadsheet
   vi. retrieve spreadsheet

6. Access the Internet.
   i. access websites using the world wide web(www)
   ii. identify examples of web browsers
   iii. use search engines with common searching techniques
   iv. describe security issues

7. Use electronic mail.
   i. describe e-mail etiquette
      - grammar and punctuation
      - privacy and legal issues when sharing and forwarding e-mail
      - work appropriate content
      - awareness of employer policies
   ii. manage e-mail using the inbox, sent, and deleted folders
   iii. send an e-mail message with attachment(s)
   iv. print e-mail

Practical Requirements:

None.

BLOCK II

LT1300 Site Layout and Surveying

Learning Outcomes:

- Demonstrate knowledge of the procedures used to perform site layout and surveying.

Duration: 30 Hours

Pre-requisites: Completion of Entry level

Objectives and Content:

1. Define terminology associated with site layout and surveying.

2. Identify hazards and describe safe work practices pertaining to site layout and surveying.

3. Describe the implications of site layout and surveying on the practice of environmental stewardship.

4. Interpret documentation pertaining to site layout and surveying.
   i. plans
   ii. specifications

5. Identify specific tools and equipment relating to site layout and surveying, and describe their applications and procedures for use.

6. Identify the methods and procedures used to stake out points when performing site layout.
   i. grade levels and stake interpretation
   ii. grid system
   iii. triangulation
   iv. distance and vector

Practical Requirements:

1. Set up a builders' level.

2. Use a builders' level to determine grades.

3. Measure existing features from a site to a site plan.

4. Locate existing features from a site to a site plan.

5. Perform a site layout.

LT2100 Job Planning

Learning Outcomes:

- Demonstrate knowledge of trade-related documentation.
- Demonstrate knowledge of the procedures used to plan job tasks.

Duration: 30 Hours

Pre-requisites: LT1300

Objectives and Content:

1. Define terminology associated with job planning.

2. Identify hazards and describe safe work practices pertaining to job planning.

3. Identify types of trade-related documentation and describe their applications and procedures for use.
   i. drawings
   ii. qualifications
   iii. specifications
   iv. codes and standards
   v. manuals
   vi. permits
   vii. regulations
   viii. policies

4. Identify the considerations and requirements when planning jobs and job tasks.
   i. site assessment
   ii. materials and equipment
   iii. personnel
   iv. sequence of work
   v. on-site staging
   vi. clean-up/debris removal

5. Explain the importance of accurate record keeping and describe the associated procedures.

Practical Requirements:

1. Plan job tasks.

2. Maintain accurate records

LT2110 Site Protection, Grading and Drainage

Learning Outcomes:

- Demonstrate knowledge of the procedures used to protect features on the site.
- Demonstrate knowledge of the procedures used to perform grading and install drainage systems.
- Demonstrate knowledge of the installation of erosion control materials.

Duration: 30 Hours

Pre-requisites: LT1300, LT2100

Objectives and Content:

1. Define terminology associated with site protection, grading and drainage systems.

2. Identify hazards and describe safe work practices pertaining to site layout, surveying, grading and drainage.

3. Describe the implications of site protection, grading and drainage on the practice of environmental stewardship.

4. Interpret codes and regulations pertaining to site protection, grading and drainage.

5. Interpret documentation pertaining to site protection, grading and drainage.
   i. grading plans
      - existing grades
      - proposed grades
      - rough grades
      - finished grades
   ii. drainage plans
   iii. specifications

6. Identify specific tools and equipment relating to site protection, grading and drainage, and describe their applications and procedures for use.

7. Identify the methods used to establish protection zones.

8. Identify types of grading and drainage systems.

9. Describe the procedures used to perform site grading.
   i. rough grading
   ii. grading for drainage
   iii. finish grading

10. Identify erosion and sediment control materials and describe their characteristics and applications.

11. Describe the procedures used to install erosion and sediment control materials.

Practical Requirements:

1. Install weeping tile.

2. Install drainage stone.

3. Grade site using grading control devices.

4. Install erosion control materials.

5. Install sediment control materials.

LT1211 Plant Identification II

Learning Outcomes:

- Demonstrate knowledge of additional plants, their characteristics and cultural requirements.

Pre-requisites: Entry Level

Duration: 30 Hours

Objectives and Content:

1. Use plant morphology to categorize a plant to the family level.
   i. leaves/needles
   ii. flowers/fruits/seeds
   iii. buds
   iv. bark
   v. growth habits

2. Use plant morphology to categorize the plants on the list to the genus and species level (see chart below).
   i. leaves/needles
   ii. flowers/fruits/seeds
   iii. buds
   iv. bark
   v. growth habits

3. Describe the cultural requirements of these additional plants (see table below).
   i. moisture
   ii. light
   iii. soil type
   iv. hardiness
   v. nutrients
   vi. propagation
   vii. salt tolerance
   viii. pruning times

4. Identify the considerations for the selection of these additional plants for specific uses.
   i. residential applications
   ii. commercial applications
   iii. reclamation/restoration
   iv. location and environment

5. Select plants for specific applications.

Landscape Horticulturist Plant List by Family

	FAMILY	Latin name	Common name	Character
1	AMARYLLIDACEAE	Narcissus spp.	Daffodil	Perennial
2	ANACARDIACEAE	Rhus typhina	Staghorn Sumac	Tree / Shrub
3	APOCYNACEAE	Vinca minor	Periwinkle	Perennial
4	BALSMINACEAE	Impatiens wallerania	Impatiens	Annual
5	BORAGINACEAE	Brunnera macrophylla	Siberian Bugloss	Perennial
6	BORAGINACEAE	Pulmonaria saccharata	Lungwort	Perennial
7	CAMPANULACEAE	Campanula carpatica	Canterbury Bells	Perennial
8	CORNACEAE	Cornus canadensis	Bunchberry	Tree / Shrub
9	CORNACEAE	Cornus sericea	Red Osier Dogwood	Tree / Shrub
10	EUPHORBIACEAE	Euphorbia polychroma	Golden Spurge	Perennial
11	FABACEAE	Lupinus polyphyllus	Lupines	Annual
12	IRIDACEAE	Crocus spp.	Crocus	Perennial
13	IRIDACEAE	Iris sibirica	Siberian Iris	Perennial
14	LAUREACEAE	Ajuga reptans	Carpet Bugleweed	Perennial
15	LILIACEAE	Tulipa spp.	Tulip	Perennial
16	LILIACEAE	Muscari spp.	Grape Hyacinth	Perennial
17	LOBELIACEAE	Lobelia erinus	Lobelia	Annual
18	PAEONIACEAE	Paeonia lactiflora	Common Garden Peony	Perennial
19	PAPAVERACEAE	Papaver nudicaule	Icelandic Poppy	Perennial
20	POACEAE	Festuca ovina var. glauca	Blue Sheep's Fescue	Perennial

21	POACEAE	Helictotrichon sempervirens	Blue Oat Grass	Perennial
22	POLEMONIACEAE	Phlox subulata	Creeping Phlox	Perennial
23	PRIMULACEAE	Primula spp.	Primrose	Perennial
24	ROSACEAE	Potentilla fruticosa	Potentilla	Tree / Shrub
25	SAXIFRAGACEAE	Heuchera sanguinea	Coral Bells	Perennial
26	SAXIFRAGACEAE	Hydrangea paniculata	Hydrangea	Tree / Shrub
27	SOLANACEAE	Petunia x hybrida	Petunia	Annual
28	VERBENACEAE	Verbena x hybrida	Verbena	Annual
29	VERBENACEAE	Lantana camara	Lantana	Annual
30	VIOLACEAE	Viola x wittrockiana	Pansy	Annual
31	PLANTS GROWN IN THE NL LANDSCAPE			

Practical Requirements:

1. Complete the following labs.
   i. Identify plants using the international system of plant nomenclature.
   ii. Identify landscape plants for landscape installation according to site location and degree of sun and shade.
   iii. Other as deemed by the course instructor.

LT2120 Landscape Walls

Learning Outcomes:

- Demonstrate knowledge of the procedures used to install natural stone and modular precast concrete wall units.
- Demonstrate knowledge of the procedures used to maintain natural stone and modular precast concrete wall units.

Duration: 30 Hours

Pre-requisites: LT1300, LT2100, LT2110

Objectives and Content:

1. Define terminology associated with hardscape installation and maintenance.

2. Identify hazards and describe safe work practices pertaining to hardscape installation and maintenance.

3. Describe the implications of landscape walls on the practice of environmental stewardship.

4. Interpret codes, regulations and manufacturer's specifications pertaining to hardscape installation and maintenance.

5. Interpret documentation pertaining to hardscape installation and maintenance.
   i. plans
   ii. contract specifications
   iii. shipping documents

6. Identify specific tools and equipment relating to hardscape installation and maintenance and describe their applications and procedures for use.

7. Identify types of natural stone and modular precast concrete landscape wall units used in hardscape installation and describe their characteristics and applications.

8. Describe the procedures used to prepare for installation of natural stone and modular precast concrete landscape wall units.

9. Describe the procedures used to install natural stone and modular precast concrete wall units.

10. Describe the procedures used to maintain natural stone and modular precast concrete wall units.

Practical Requirements:

1. Install a natural stone wall.

2. Install modular wall units.

LT2130 Concrete Construction

Learning Outcomes:

- Demonstrate knowledge of the procedures used to install poured concrete features.
- Demonstrate knowledge of the procedures used to maintain poured concrete features.

Duration: 30 Hours

Pre-requisites: LT1300, LT2100, LT2110

Objectives and Content:

1. Define terminology associated with hardscape installation and maintenance.

2. Identify hazards and describe safe work practices pertaining to hardscape installation and maintenance.

3. Describe the implications of concrete construction on the practice of environmental stewardship.

4. Interpret codes, regulations and manufacturer's specifications pertaining to hardscape installation and maintenance.

5. Interpret documentation pertaining to hardscape installation and maintenance.
   i. plans
   ii. contract specifications
   iii. shipping documents

6. Identify specific tools and equipment relating to hardscape installation and maintenance and describe their applications and procedures for use.

7. Identify concrete products and materials used in hardscape installation and maintenance and describe their characteristics and applications.

8. Describe the procedures used to prepare for installation of poured concrete features.

9. Describe the procedures used to install poured concrete features.

10. Describe the procedures used to maintain poured concrete features.

Practical Requirements:

1. Install poured concrete features.

LT2140 Wood Construction

Learning Outcomes:

- Demonstrate knowledge of the procedures used to construct wood features.

Pre-requisites: LT1300, LT2100, LT2110

Duration: 30 Hours

Objectives and Content:

1. Define terminology associated with hardscape installation and maintenance.

2. Identify hazards and describe safe work practices pertaining to hardscape installation and maintenance.

3. Describe the implications of wood construction on the practice of environmental stewardship.

4. Interpret codes, regulations and manufacturer's specifications pertaining to hardscape construction and maintenance.

5. Interpret documentation pertaining to hardscape installation and maintenance.
   i. plans
   ii. contract specifications
   iii. shipping documents

6. Identify specific tools and equipment relating to wood feature construction and maintenance and describe their applications and procedures for use.

7. Identify products and materials used in wood feature construction and maintenance and describe their applications and procedures for use.
   i. natural timber and wood
   ii. engineered and composite wood

8. Describe the procedures used to prepare for installation of hardscape materials.

9. Describe the procedures used to install landscape wood features.

10. Describe the procedures used to maintain landscape wood features.

Practical Requirements:

1. Install landscape wood features.

LT2150 Landscape Pavers

Learning Outcomes:

- Demonstrate knowledge of the procedures used to install natural stone pavers and modular precast concrete landscape pavers and slabs.
- Demonstrate knowledge of the procedures used to maintain natural stone pavers and modular precast concrete landscape pavers and slabs.

Duration: 30 Hours

Pre-requisites: LT1300, LT2100, LT2110

Objectives and Content:

1. Define terminology associated with hardscape installation and maintenance.

2. Identify hazards and describe safe work practices pertaining to hardscape installation and maintenance.

3. Describe the implications of landscape pavers on the practice of environmental stewardship.

4. Interpret codes, regulations and manufacturer's specifications pertaining to hardscape installation and maintenance.

5. Interpret documentation pertaining to hardscape installation and maintenance.
   i. plans
   ii. contract specifications
   iii. shipping documents

6. Identify specific tools and equipment relating to hardscape installation and maintenance and describe their applications and procedures for use.

7. Identify types of natural stone pavers, and modular precast concrete landscape pavers and slabs used in hardscape installation and describe their characteristics and applications.

8. Describe the procedures used to prepare for installation of natural stone pavers, and modular precast concrete landscape pavers and slabs.

9. Describe the procedures used to install natural stone pavers, and modular precast concrete landscape pavers and slabs.

10. Describe the procedures used to maintain natural stone pavers, and modular precast concrete landscape pavers and slabs.

Practical Requirements:

1. Install landscape pavers.

BLOCK III

LT2210 Plant Identification III

Learning Outcomes:

- Demonstrate knowledge of additional plants, their characteristics and cultural requirements.

Duration: 30 Hours

Pre-requisites: Block II

Objectives and Content:

1. Use plant morphology to categorize a plant to the family level.
   i. leaves/needles
   ii. flowers/fruits/seeds
   iii. buds
   iv. bark
   v. growth habits

2. Use plant morphology to categorize the plants on the list to the genus and species level.
   i. leaves/needles
   ii. flowers/fruits/seeds
   iii. buds
   iv. bark
   v. growth habits

3. Describe the cultural requirements of these plants.
   i. moisture
   ii. light
   iii. soil type
   iv. hardiness
   v. nutrients
   vi. pruning
   vii. cultivation

4. Identify the considerations for the selection of these plants for specific uses (see chart below).
   i. residential applications
   ii. commercial applications
   iii. reclamation/restoration
   iv. location and environment

5. Select plants for specific applications.

Landscape Horticulturist Plant List by Family

	FAMILY	Latin name	Common name	Character
1	ASTERACEAE	Rudbeckia hirta	Gloriosa Daisy	Annual
2	ASTERACEAE	Helianthus annuus	Sunflower	Annual
3	ASTERACEAE	Cosmos bipinnatus	Cosmos	Annual
4	ASTERACEAE	Dendranthema **x** morifolium	Garden Mum	Perennial
5	ASTERACEAE	Echinops bannaticus	Globe Thistle	
6	ASTERACEAE	Achillia millefolium	Common Yarrow	Perennial
7	ASTERACEAE	Artemesia schmidtiana	Silver Mound	Perennial
8	ASTERACEAE	Liatris spicata	Blazing Star	Perennial
9	BETULACEAE	Betula pendula	European White Birch	Tree / Shrub
10	BETULACEAE	Corylus cornuta	Beaked Hazelnut	Tree / Shrub
11	BRASSICACEAE	Arabis caucasica	Rock Cress	Annual
12	CAPRIFOLIACEAE	Sambucus racemosa	European Red Elder	Tree / Shrub
13	CARYOPHYLLACEAE	Cerastium tomentosum	Snow-in-Summer	Perennial
14	CORNACEAE	Cornus alba	White Dogwood	Tree / Shrub
15	CRASSULACEAE	Sempervivum tectorum	Hens and Chicks	Perennial
16	CUPRESSACEAE	Juniperus scopulorum	Rocky Mountain Juniper	Tree / Shrub

17	CUPRESSACEAE	Juniperus squamata	Squamata Juniper	Tree / Shrub
18	CUPRESSACEAE	Microbiota decussata	Siberian Cypress	Tree / Shrub
19	FABACEAE	Genista pilosa	Spreading Broom	Tree / Shrub
20	LAMIACEAE	Thymus pseudolanuginosus	Woolly Thyme	Perennial
21	OLEACEAE	Fraxinus pennsylvanica var. subintegerrima	Green Ash	Tree / Shrub
22	OLEACEAE	Syringa meyeri	Meyers Lilac	Tree / Shrub
23	PINACEAE	Larix laricina	Tamarack	Tree / Shrub
24	PINACEAE	Picea pungens	Colorado Spruce	Tree / Shrub
25	RANUNCULACEAE	Aconitum napellus	Monkshood	Perennial
26	RANUNCULACEAE	Aquilegia hybrida	Columbine	Perennial
27	ROSACEAE	Spiraea x vanhouttei	Bridal Wreath Spirea	Tree / Shrub
28	ROSACEAE	Alchemilla mollis	Lady's Mantle	Perennial
29	ROSACEAE	Physocarpus opulifolius	Common Ninebark	Tree / Shrub
30	SALICACEAE	Populus deltoides	Plains Cottonwood	Tree / Shrub
31	PLANTS GROWN IN THE NL LANDSCAPE			

Practical Requirements:

1. Complete the following labs.
   i. identify plants using the international system of plant nomenclature
   ii. identify landscape plants for landscape installation according to site location and degree of sun and shade
   iii. other as deemed by the course instructor

LT2160 Irrigation

Learning Outcomes:

- Demonstrate knowledge of irrigation equipment and systems, their applications and operation.
- Demonstrate knowledge of the procedures used to install, maintain, troubleshoot and repair irrigation equipment and systems.

Duration: 30 Hours

Pre-requisites: Block II

Objectives and Content:

1. Define terminology associated with irrigation.

2. Identify hazards and describe safe work practices pertaining to irrigation.

3. Describe the implications of irrigation on the practice of environmental stewardship.

4. Identify specific tools and equipment related to irrigation and describe their applications and procedures for use.

5. Identify water sources for irrigation and describe the considerations and procedures for determining water quality and availability.
   i. sample preparation
   ii. water testing
   iii. water pressure
   iv. flow rate
   v. results interpretation

6. Identify the factors that determine irrigation rates and methods.
   i. plant materials
      - growth stage
      - mature size
      - water use rate

ii. root zone assessment
iii. soil/water relationship
iv. site conditions
v. application
- time
- rate
- duration

vi. climate

7. Identify the types of irrigation systems.
   i. drip/low water volume
   ii. sprinkler

8. Identify types of irrigation components and describe their applications and procedures for use.

9. Describe the procedures used to install irrigation equipment and systems.

10. Describe the procedures used to maintain, troubleshoot, repair and adjust irrigation equipment and systems.
    i. spring start-up
    ii. seasonal operation
    iii. fall shut-down

Practical Requirements:

1. Install an irrigation system.

2. Troubleshoot an irrigation system and equipment.

3. Repair an irrigation system and equipment.

4. Maintain an irrigation system and equipment.

5. Perform spring start-up procedures.

6. Perform fall shut-down procedures.

7. Program an irrigation controller.

LT2170 Trade Related Documents

Learning Outcomes:

- Demonstrate knowledge of trade related documents and their use.
- Demonstrate knowledge of procedures used to prepare documentation.

Pre-requisites: Block II

Duration: 18 Hours

Objectives and Content:

1. Identify types of trade related documents and describe their applications.
   - i. manufacturers' specifications
   - ii. blueprints
   - iii. guidelines, codes and standards
     - hardscape specifications
     - softscape specifications
     - safety specifications
   - iv. contracts and proposals
     - tenders/tendering
     - guarantees/warranties

2. Identify types of documentation and describe the procedures used to prepare them.
   - i. work orders
     - change
     - job
     - material
   - ii. reports
     - hazard assessment
     - safety
     - Worker's Compensation

iii. maintenance/service/stock/inventory records
- shop
- job site
- vehicle
- equipment

Practical Requirements:

1. Prepare trade-related forms and documents.

2. Complete trade-related forms and documents.

LT2180 Water Features and Low Voltage Landscape Lighting

Learning Outcomes:

- Demonstrate knowledge of the design, installation and maintenance of landscape water features.
- Demonstrate knowledge of the design, installation and maintenance of low voltage landscape lighting.

Duration: 30 Hours

Pre-requisites: Block II

Objectives and Content:

1. Define terminology associated with water features and low voltage landscape lighting.

2. Identify hazards and describe safe work practices pertaining to water features and low voltage landscape lighting.

3. Describe the implications of water features and lighting on the practice of environmental stewardship.

4. Interpret codes and regulations pertaining to water features and low voltage landscape lighting.

5. Interpret documentation pertaining to water features and low voltage landscape lighting.

6. Identify types of water features and describe their characteristics and applications.

7. Describe the procedures used to install water features.

8. Describe the procedures used to maintain, troubleshoot and repair water features.

9. Identify types of low voltage landscape lighting and describe their characteristics and applications.

10. Describe the procedures used to install low voltage landscape lighting.

11. Describe the procedures used to maintain, troubleshoot and repair low voltage landscape lighting.

Practical Requirements:

1. Install low voltage landscape lighting.

2. Maintain low voltage landscape lighting.

3. Repair low voltage landscape lighting.

4. Install water features.

5. Maintain water features.

6. Repair water features.

LT2190 Pest and Disease Management

Learning Outcomes:

- Demonstrate knowledge of codes and regulations pertaining to pest and disease management.
- Demonstrate knowledge of types of pests and diseases and the procedures used to manage them.
- Demonstrate knowledge of the procedures to handle, apply, store and dispose of pest and disease management products and tools.
- Demonstrate knowledge of pest control products, formulations and application equipment.

Duration: 42 Hours

Pre-requisites: Block II

Objectives and Content:

1. Define terminology associated with pest and disease management.

2. Define the components of an Integrated Pest Management (IPM) program.

3. Describe the implications of IPM on the practice of environmental stewardship.

4. Identify methods used for pest and disease management and treatment.
   iv. regulatory
   v. physical/mechanical
   vi. cultural
   vii. biological
   viii. chemical

5. Identify hazards and describe safe work practices pertaining to pest and disease management

6. Interpret and complete documentation pertaining to pest and disease management.
   i. pest and disease monitoring
   ii. treatment and management records
   iii. evaluation of pest and disease management methods

7. Interpret codes and regulations pertaining to pest and disease management methods and products.
   i. environmental protection
   ii. personal protective equipment

8. Identify the considerations for selecting and applying pest and disease management measures.
   i. pest/disease populations
   ii. injury levels
   iii. action thresholds
   iv. beneficial insect pest populations

9. Identify specific tools and equipment relating to pest and disease management and describe their applications and procedures for use.

10. Identify common types of pests in relation to the landscape and describe their characteristics and life cycles.
    i. arthropods
    ii. nematodes
    iii. birds and mammals
    iv. weeds

11. Identify common types of diseases and disorders in relation to the landscape and describe their characteristics.
    i. biotic
    ii. abiotic

12. Identify the factors for selecting and applying pest and disease management measures.
    i. site analysis
    ii. pest/disease populations
    iii. injury levels
    iv. action thresholds
    v. monitoring techniques

13. Describe the procedures used to implement pest and disease management measures.
    i. management techniques
    ii. preparation
    iii. equipment selection
    iv. equipment calibration
    v. application techniques

14. Describe the procedures used to handle, store and dispose of:
    i. pest and disease management products
    ii. infested or contaminated plant material or soil
    iii. pest management product containers

Practical Requirements:

1. Select treatment methods according to thresholds and IPM protocols.

2. Apply treatment methods according to thresholds and IPM protocols.

3. Calibrate equipment.

4. Practice application techniques.

5. Practice equipment maintenance.

LT2200 Estimating

Learning Outcomes:

- Demonstrate knowledge of the procedures used to calculate and estimate job requirements.

Duration: 30 Hours

Pre-requisites: Block II

Objectives and Content:

1. Define terminology associated with estimating.

2. Identify sources of information pertaining to estimating.

3. Identify specific tools relating to estimating and describe their applications and procedures for use.

4. Describe the procedures used to calculate material requirements.
   i. lengths
   ii. surface areas
   iii. volumes
   iv. rates of application
   v. expansion/compaction factors
   vi. shipping quantities

5. Describe the procedures used to calculate equipment requirements.
   i. equipment types/costing
   ii. production rates
   iii. transportation

6. Describe the procedures used to calculate labour requirements.
   i. individual tasks
   ii. production rates
   iii. person-hours

7. Identify job requirements.
   i. overhead costs
   ii. general conditions
   iii. profit margins

Practical Requirements:

1. Prepare an estimate from a given landscape plan.

2. Calculate the quantity of materials required from given construction plans and specifications.

3. Calculate the quantity of equipment required from given construction plans and specifications.

4. Calculate the quantity of labour required from given construction plans and specifications.

LT2220 Pruning

Learning Outcomes:

- Demonstrate knowledge of the procedures used to inspect, maintain, store and transport pruning tools and equipment.
- Demonstrate knowledge of the procedures for pruning.
- Demonstrate knowledge of the procedures for the disposal of diseased and infested plant parts.

Duration: 30 Hours

Pre-requisites: Block II

Objectives and Content:

1. Define terminology associated with pruning and pruning related to the removal of diseased and infested plant parts.

2. Identify hazards and describe safe work practices pertaining to pruning and pruning related to the removal of diseased and infested plant parts.

3. Interpret and prepare documentation pertaining to pruning and pruning related to the removal of diseased and infested plant parts.

4. Identify specific tools and equipment relating to pruning and pruning related to the removal of diseased plant parts and describe their applications and procedures for use.

5. Describe the procedures used to inspect, maintain, store and transport pruning tools and equipment.

6. Explain the purpose of pruning.
   i. plant appearance
   ii. plant growth requirements
      - coniferous
      - deciduous
   iii. plant health

7. Identify pruning methods and techniques and describe their associated procedures.
   i. heading
   ii. cleaning/thinning
   iii. crown raising
   iv. reduction
   v. restoration
   vi. specialized methods

8. Identify pruning methods related to the removal and disposal of diseased and infested plant parts and describe their associated procedures.

Practical Requirements:

1. Perform basic pruning techniques.

2. Clean and sanitize pruning tools and equipment

3. Perform safe work practices using access equipment

LT2230 Plant Inventory Management

Learning Outcomes:

- Demonstrate knowledge of the procedures for ordering, receiving, storing and transporting of plant materials.

Duration: 30 Hours

Pre-requisites: Block II

Objectives and Content:

1. Define terminology associated with ordering, receiving, storing and transporting plant materials.

2. Identify hazards and describe safe work practices pertaining to handling plant materials.

3. Interpret documentation relevant to ordering, receiving, storing and transporting plant materials.
   i. plans
   ii. specifications
   iii. regulations
   iv. shipping documentation

4. Describe the procedures for ordering plant materials.

5. Explain the process for verifying and accepting plant material shipments.
   i. required documentation
   ii. verification of order
      - quantity
      - variety
      - size
   iii. quality

6. Describe the procedures used for transporting and storing plant materials.
    i. transportation methods
    ii. loading
    iii. securing
    iv. protecting
    v. unloading
    vi. holding area
    vii. watering

Practical Requirements:

1. Select various species as they arrive.
    i. identify species
    ii. group accordingly
    iii. verify quantity

D. Conditions Governing Apprenticeship Training

1.0 General

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

2.0 Entrance Requirements

2.1 Entry into the occupation as an apprentice requires:

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

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

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

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

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

3.0 Probationary Period

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

4.0 Termination of a Memorandum of Understanding

After the probationary period referred to in Section 3.0, the Memorandum of Understanding may be terminated by the PACB by mutual consent of the parties involved, or cancelled by the PACB for proper and sufficient cause in the opinion of the PACB, such as that stated inSection14.

5.0 Apprenticeship Progression Schedule, Wage Rates and Advanced Training Criteria

Progression Schedule, Wage Rate and Advanced Training Criteria are stated in the specific occupational Plan of Training for each designated apprenticeship occupation.

Progression Schedule

Landscape Horticulturist-5400 Hours			
APPRENTICESHIP LEVEL AND WAGES			
Year	Wage Rate At This Level	Requirements for progression to next level of apprenticeship	When requirements are met, the apprentice will progress to…
1st	60 %	▪ Completion of Block 1 training ▪ Pass Block 1 exam ▪ Minimum 1800 hours of combined relevant work experience and training	2nd Year
2nd	75%	▪ Completion of Block 2 training ▪ Pass Block 2 exam ▪ Minimum 3600 hours of combined relevant work experience and training	3rd Year
3rd	90%	▪ Completion of Block 3 training ▪ Minimum 5400 hours of combined relevant work experience and training ▪ Sign-off of all workplace skills in apprentice logbook ▪ Pass certification exam	Journeyperson Certification

Wage Rates

- Rates are percentages of the prevailing journeyperson's wage rate in the place of employment of the apprentice.
- Rates must not be less than the wage rate established by the Labour standards Act (1990), as now in force or as hereafter amended, or by other order, as amended from time to time replacing the first mentioned order.
- Rates must not be less than the wage rate established by any collective agreement which may be in force at the apprentice's workplace.
- Employers are free to pay wage rates above the minimums specified.

Block Exams

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

Landscape Horticulturist-5400 Hours		
CLASS CALLS		
Call Level	Requirements for Class Call	Hours awarded for In-School Training
Direct Entry Apprentice: PLA & / or Block 1	▪ Minimum of 1000 hours of relevant work experience ▪ Prior Learning Assessment (PLA) at designated college (if applicable)	To be determined by the number of courses completed after each class call
Block 2	▪ Minimum of 3000 hours of relevant work experience and training	240
Block 3	▪ Minimum of 5200 hours of relevant work experience and training	240

Direct Entry Apprentice:

- Must complete Block 1 courses through PLA and / or in school training.
- Block 1 training is to be completed via class calls; up to 16 weeks of training per calendar year.
- Must attend in-school training until Block 1 is complete before attending Blocks 2 or higher.

Class calls at Minimum Hours:

- Class calls may not always occur at the minimum hours indicated. Some variation is permitted to allow for the availability of training resources and apprentices.

6.0 Tools

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

7.0 Periodic Examinations and Evaluation

7.1 Every apprentice shall submit to such occupational tests and examinations as the PACB shall direct. If after such occupational tests and examinations the apprentice is found to be making unsatisfactory progress, his/her apprenticeship level and rate of wage shall not be advanced as provided in Section 5 until his/her progress is satisfactory to the Director of Apprenticeship and Trades Certification and his/her date of completion shall be deferred accordingly. Persistent failure to pass required tests shall be a cause for revocation of his/her Memorandum of Understanding.

7.2 Upon receipt of reports of accelerated progress of the apprentice, the PACB may shorten the term of apprenticeship and advance the date of completion accordingly.

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

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

8.0 Granting of Certificates of Apprenticeship

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

9.0 Hours of Work

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

10.0 Copies of the Registration for Apprenticeship

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

11.0 Ratio of Apprentices to Journeypersons

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

12.0 Relationship to a Collective Bargaining Agreement

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

13.0 Amendments to a Plan of Apprenticeship Training

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

14.0 Employment, Re-Employment and Training Requirements

14.1 The Plan of Training requires apprentices to regularly attend their place of employment.

14.2 The Plan of Training requires apprentices to attend training for that occupation as prescribed by the PACB.

14.3 Failure to comply with Sections 14.1 and/or 14.2 will result in cancellation of the Memorandum of Understanding. Apprentices may have their MOUs reinstated by the PACB but would be subject to a commitment to complete the entire program as outlined in the General Conditions of Apprenticeship. Permanent cancellation in the said occupation is the result of non-compliance.

14.4 Cancellation of the Memorandum of Understanding to challenge journeyperson examinations, if unsuccessful, would require an apprentice to serve a time penalty of two (2) years before reinstatement as an apprentice or qualifying to receive a class call to training as a registered Trade Qualifier. Cancellation must be mutually agreed upon by the employer and the apprentice.

14.5 An employer shall ensure that each apprentice is under the direct supervision of an approved journeyperson supervisor who is located at the same worksite as the apprentice, and that the apprentice is able to communicate with the journeyperson with respect to the task, activity or function that is being supervised.

14.6 Under the Plan of Training the employer is required to keep each apprentice employed as long as work is available, and if the apprentice is laid off due to lack of work, to give first opportunity to be hired before another is hired.

14.7 The employer will permit each apprentice to attend training programs as prescribed by the PACB.

14.8 Apprentices who cannot acquire all the workplace skills at their place of employment will have to be evaluated in a simulated work environment at a PACB authorized training institution and have sign-off done by instructors to meet the requirements for certification.

15.0 Appeals to Decisions Based on Conditions Governing Apprenticeship Training

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

E. Requirements for Red Seal Endorsement

1. Evidence the required work experiences outlined in this Plan of Training have been obtained. This evidence must be in a format clearly outlining the experiences and must be signed by an appropriate person or persons attesting that these experiences have been obtained to the level required.

2. Successful completion of all required courses in the program.

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

   Or

   A total of 7200 hours of suitable work experience.

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

F. Roles and Responsibilities of Stakeholders in the Apprenticeship Process

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

The Apprentice:

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

The Employer:

- provides high quality work experiences in an environment conducive to learning.

- remunerates apprentices as set out in the Plan of Training or Collective Agreements.

- provides feedback to training institutions, Apprenticeship and Trades Certification Division and apprentices in an effort to establish a process of continuous quality improvement.

- where appropriate, releases apprentices for the purpose of returning to a training institution to complete the necessary technical courses.

- ensures work experiences of the apprentice are documented.

- ensures a certified journeyperson is currently on staff in the same trade area as the apprentice and whose certification is recognized by the NL Department of Advanced Education and Skills.

The Training Institution:

- provides a high quality learning environment.

- provides the necessary student support services that will enhance an apprentice's ability to be successful.

- participates with other stakeholders in the continual updating of programs.

The Apprenticeship and Trades Certification Division:

- establishes and maintains program advisory committees under the direction of the PACB.

- promotes apprenticeship training as a viable career option to prospective apprentices and other appropriate persons involved, such as career guidance counsellors, teachers, parents, etc.

- establishes and maintains a protocol with training institutions, employers and other appropriate stakeholders to ensure the quality of apprenticeship training programs.

- ensures all apprentices are appropriately registered and records are maintained as required.

- schedules all necessary technical training periods for apprentices to complete requirements for certification.

- administers block, provincial and interprovincial examinations.

The Provincial Apprenticeship and Certification Board:

- sets policies to ensure the provisions of the *Apprenticeship and Certification Act (1999)* are implemented.

- ensures advisory and examination committees are established and maintained.

- accredits institutions to deliver apprenticeship training programs.

- designates occupations for apprenticeship training and/or certification.