Plan of Training

LANDSCAPE HORTICULTURIST

Newfoundland Labrador

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

June 2011

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Approved by:

Chairperson, Provincial Apprenticeship and Certification Board

Date: June 14, 2011

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.

Acknowledgements

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.

Contact Information

Department of Education
Institutional and Industrial Education Division
Tel: 709-729-2729 / 1-877-771-3737
Email: app@gov.nl.ca
Web: www.gov.nl.ca/app

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A. 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 certain Plan of Training.

2.0 Entrance Requirements

2.1 Entry into the occupation as an apprentice requires:

Indenturing into the occupation by an employer who agrees to provide the appropriate training and work experiences as outlined in 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 particular Plan of Training. Mature students, at the discretion of the Director of Institutional and Industrial Education, may be registered. A mature student is defined as one who has reached the age of 19 and who can demonstrate the ability and the interest to complete the requirements for certification.

2.3 At the discretion of the Director of Institutional and Industrial Education, credit 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.

3.0 Probationary Period

The probationary period for each Memorandum of Understanding will be six months. Within that period the memorandum may be terminated by either party upon giving the other party and the 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.

5.0 Apprenticeship Progression Schedule and Wage Rates

5.1 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 (pre-employment) training ▪ Pass block 1 exam ▪ Relevant work experience totaling 1800 hours or more	2nd Year
2nd	75%	▪ Completion of Block 2 training ▪ Pass block 2 exam ▪ Relevant work experience totaling 3600 hours or more	3rd Year
3rd	90%	▪ Completion of Block 3 training ▪ Pass block 3 exam	Journeyperson Certification

		▪ Relevant work experience totaling 5400 hours or more ▪ Sign-off of all workplace skills in apprentice logbook ▪ Pass certification exam	

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.

Programs with five or more blocks

- Apprentices in these programs are considered fourth year apprentices until they have satisfied all their program requirements and have become journeypersons.

6.0 Tools

Apprentices shall be required to obtain hand tools as and when 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 rate of wage shall not be advanced as provided in Section 5 until his/her progress is satisfactory to the Director of Institutional and Industrial Education and his/her date of completion shall be deferred accordingly. Persistent failure to pass required tests shall be a cause for revocation of his/her Memorandum of Understanding.

7.2 Upon receipt of reports of accelerated progress of the apprentice, the 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.

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 Institutional and Industrial Education shall provide copies of the Registration for Apprenticeship form to all signatories to the document.

11.0 Ratio of Apprentices to Journeypersons

The ratio of apprentices to journeypersons shall not exceed two apprentices to every one journeyperson employed, with the condition that one of these be a final year apprentice.

12.0 Relationship to a Collective Bargaining Agreement

Collective agreements take precedence over the conditions outlined in the Plan of Training.

13.0 Amendments to a Plan of Apprenticeship Training

A plan of training may be amended at any time by the 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 regularly attend training programs 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. An apprentice will be required to pay a reinstatement fee. Permanent cancellation in the said occupation is the result of non-compliance.

14.4 Cancellation of the Memorandum of Understanding to challenge journeyperson examinations, if unsuccessful, would require an apprentice to serve a time penalty of two (2) years before reinstatement as an apprentice or registering as a Trade Qualifier.

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

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

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

15.0 Appeals to Decisions Based on Conditions Governing Apprenticeship Training

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

B. Requirements for Red Seal Certification

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

2. Successful completion of all required courses in program.

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

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

C. 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, Institutional and Industrial Education 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.

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 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 provincial/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.

D. Program Outcomes

Upon completion of the Landscape Horticulturist program, students will have demonstrated the knowledge and skills required to perform the following tasks:

Task 1	Uses and maintains tools and equipment.
Task 2	Organizes work.
Task 3	Participates in marketing and sales.
Task 4	Analyses and maintains plant health care.
Task 5	Performs pre-construction activities.
Task 6	Installs softscape.
Task 7	Installs hardscape.
Task 8	Maintains softscape.
Task 9	Maintains hardscape.

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

Entry Level Courses – Block 1				
Course No.	**IPG Code**	**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
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,

Entry Level Courses – Block 1				
				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	TS, 1510, TS1520, TS1530, LT1100, LT1110, LT1120, LT1130, LT1200, LT1210, LT1220, LT1230, LT1240, LT1260
AP1100		Introduction to Apprenticeship	15	
CM2150	LHT-135	Workplace Communications	45	
MR1220	LHT-250	Customer Service	30	
SP2330		Quality Assurance/Quality Control	30	
MC1050		Introduction to Computers	30	
SD1700		Workplace Skills	30	
SD1710		Job Search Techniques	15	
SD1720		Entrepreneurial Awareness	15	
		Total Hours Block 1:	**720**	

Required Work Experience

Block 2				
Course No.	**IPG Code**	**Course Name**	**Hours**	**Pre-requisite(s)**
LT1300	LHT-140	Site Layout and Surveying	30	Entry Level
LT2100	LHT-220	Job Planning	30	LT1300
LT2110	LHT-225	Site Protection, Grading and Drainage	30	LT1300, LT2100
LT1211	LHT-200	Plant Identification II	30	Entry Level
LT2120	LHT-325	Landscape Walls	30	LT1300, LT2100, LT2110
LT2130	LHT-330	Concrete Construction	30	LT1300, LT2100, LT2110
LT2140	LHT-335	Wood Construction	30	LT1300, LT2100, LT2110
LT2150	LHT-245	Landscape Pavers	30	LT1300, LT2100, LT2110
		Total Hours Block 2:	**240**	

Required Work Experience

Block 3				
Course No.	**IPG Code**	**Course Name**	**Hours**	**Pre-requisite(s)**
LT2210	LHT-300	Plant Identification III	30	Block 2
LT2160	LHT-320	Irrigation	30	Block 2
LT2170	LHT-210	Trade Related Documents	18	Block 2
LT2180	LHT- 340	Water Features and Low Voltage Landscape Lighting	30	Block 2
LT2190	LHT-205	Pest and Disease Management	42	Block 2
LT2200	LHT-350	Estimating	30	Block 2
LT2220	LHT-310	Pruning	30	Block 2
LT2230	LHT-230	Plant Inventory Management	30	Block 2
		Total Hours Block 3:	**240**	
Total Course Credit Hours			**1200**	

Entry Level – Block 1

TS1510 Occupational Health and Safety

Description:

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

Pre-Requisites: None

Course Duration: 6 Hours

Learning Outcomes:

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

- Prevent accidents and illnesses.

- Improve health and safety conditions in the workplace.

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 & 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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)

Description:

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

Pre-Requisites: None

Course Duration: 6 Hours

Learning Outcomes:

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

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

Objectives and Content:

1. Define WHMIS safety.
    i. rational and key elements
    ii. history and development of WHMIS
    iii. WHMIS legislation
    iv. WHMIS implementation
    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 subdivisions in WHMIS
- general rules for classification
- class A – compresses 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 make 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 WHMIS label

- supplier label
- workplace label
- other means of identification

ii. responsibilities 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

1. Locate WHMIS label and interpret the information displayed.

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

SUGGESTED RESOURCES:

1. WHMIS Regulation.

2. Sample MSDS sheets.

TS1530 Standard First Aid

Description:

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

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

Pre-Requisites: None

Course Duration: 14 Hours

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; 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.

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.

Pre-requisites: None

Course Duration: 6 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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

Description:

This course provides information and prescribes practical exercises to develop knowledge and skills to safely operate a chain saw.

Learning Outcomes:

- To identify types of chain saws.
- To safely operate a chain saw.

Prerequisites: None

Course Duration: 4 Hours

Objectives and Content:

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

Practical Requirements:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: None

Course Duration: 9 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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.

Pre-requisites: TS1510, TS1520, TS1530, LT1100

Course Duration: 12 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Prerequisites: None

Course Duration: 60 Hours

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.

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

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: TS1510, TS1520, TS1530, LT1100

Course Duration: 60 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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.

Pre-requisites: LT1200

Course Duration: 60 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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.
    iii. Other as deemed by the course instructor.

LT1220 Soil Management

Learning Outcomes:

- Demonstrate knowledge of soil types and soil amendments.

Pre-requisites: LT1200

Course Duration: 60 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

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

Course Duration: 24 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

1. Calibrate application equipment.

2. Calculate application rate as per specifications.

LT1240 Plan Reading

Learning Outcomes:

- Demonstrate knowledge of landscape plans and associated documentation.

Pre-requisites: LT1120

Course Duration: 21 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

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

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory.**

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.

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

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

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

Course Duration: 18 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

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

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

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

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

1. Prepare turf with seed.

2. Install turf with seed.

3. Prepare turf with sod.

4. Install turf with sod.

AP1100 Introduction to Apprenticeship

Description:

This course is designed to give participants the knowledge base and skills necessary to understand and successfully navigate the apprenticeship/red seal program.

Learning Outcomes:

- Identify the requirements for registering in an apprenticeship program.
- Describe the registration process.
- Explain the steps to complete the apprenticeship program.
- Articulate the roles of the apprentice, journeyperson, training institutions, industry and governing bodies in the apprentice program.
- Explain the significance of the Red Seal Program.

Pre-Requisites: None

Course Duration: 15 Hours

Objective and Content:

1. Define apprenticeship.
    i. define Apprenticeship and Red Seal Certification
    ii. discuss the definition of Apprenticeship and Red Seal Certification
    iii. distinguish between Red Seal and Provincial Certification

2. Explore how apprenticeship is governed and administered.
    i. explain who is responsible for administrating apprenticeship
        - Department of Education
        - Provincial Apprenticeship and Certification Board

3. Explore the roles and responsibilities of those involved in the apprenticeship process.
    i. apprentice
    ii. employer/journeyperson
    iii. Industrial Training Division
        - explain when and where to take the in-class portion of advance training
        - discuss class calls
    iv. Training Institutions
        - various delivery methods
    v. Provincial Apprenticeship and Certification Board

4. List and explain the steps in the apprenticeship process.
    i. explain the registration process
    ii. describe apprenticeship as an agreement between employee, employer and Provincial government
    iii. review a Memorandum of Understanding
    iv. legal document
    v. review an application of apprenticeship
        - original high school certificate or equivalent
        - original transcript from the applicant's training institution
    i. describe the roles of Institutional and Industrial Education Division of the Department of Education in apprenticeship
    vi. explain the role of the Program Development Officer
        - define probation period
        - discusses what constitutes a cancellation of apprenticeship
        - explain the consequences of an apprenticeship cancellation
        - discuss the purpose of the Record of Occupational Progress (Log Book)
        - explore how to maintain your log book
        - discuss who is responsible for tracking and signing-off on trade skills
        - explain how and where to record hours worked
        - identify the importance of updating your file with the Program Development Officer
    vii. differentiate between provincial and interprovincial exams

5. Describe the training and education requirements.
    i. discuss the factors affecting on-the-job and in class portions of your training
    ii. define in school and on the job training
        - review a Plan of Training
        - identify the percentage of on-the-job and in class training time
        - current labour market implications on completing an apprenticeship program

6. Explain Plans of Training.
    i. identify what is included in the Plan of Training
        - entrance requirements
        - duration of in-school and on-the-job training
        - course content
        - entry level or advanced level
    ii. explain how a Journeyperson Certificate is achieved
        - discuss Certificate of Qualification.
        - discuss Certificate of Apprenticeship.
        - discuss Red Seal endorsement

7. Discuss the Red Seal Program.
    i. define designated trade
    ii. explore the National Occupational Analysis for your trade
    i. explain Interprovincial Standards Red Seal Program and how it works.
        - labor mobility
        - qualification recognition
    iii. discuss the range of careers possible in your chosen trade

8. Explain apprenticeship progression schedule and wage rates.
    i. review a Record of Occupational Progress (Log Book)
    ii. hours per program
    iii. requirements for progression
    iv. wage rates per year of apprenticeship

9. Identify the examinations and evaluation process used in Apprenticeship.
    i. discuss occupational tests and examinations as directed by the

Provincial Apprenticeship and Certification Board
- theory
- practical

ii. explain formal assessment and the pass mark of 70%

10. Examine some of the financial incentives available to apprentices.
    i. Employment Insurance (E.I.) Benefits
    ii. government sponsored student loans
    iii. apprenticeship incentive Federal and Provincial
    iv. scholarships

11. Continuing training outside the Province of Newfoundland Labrador.
    i. training in other provinces and territories
        - procedure for registration and recognition of hours and skills in other provinces
    ii. options for dual certification
        - transfer of credits

12. Review and define the following terms:
    i. Apprenticeship Program Accreditation
    ii. Cancellation of Apprenticeship
    iii. Certificate of Apprenticeship
    iv. Certificate of Qualification
    v. Certification Renewal
    vi. Criteria for Eligibility
    vii. Journeyperson
    viii. Practical Examination
    ix. Prior Learning
    x. Record of Occupational Progress (Logbook)
    xi. Red Seal Certification
    xii. Registered Apprentice
    xiii. Theoretical Examination
    xiv. National Occupational Analysis (NOA)
    xv. Class Call
    xvi. Dual certification

Practical Requirements:

1. Review the Provincial Apprenticeship web site: www.gov.nl.ca/app.
    i. identify the requirements for registering as an apprentice and the registration process
    ii. explain the steps to complete an apprenticeship program
    iii. identify who is responsible for tracking and signing-off on trade skills
    iv. identify the nearest Industrial Training Office to your community
    v. identify the current incentives available to apprentices

2. Review a plan of training on the Provincial Apprenticeship web site.
    i. identify the hours for your trade (in-school and on-the-job)
    ii. explain the roles and responsibilities of the following stakeholders in the apprenticeship process: employer, apprentice, training institution and the Industrial Training Division

3. Visit the Red Seal Web site http://www.red-seal.ca, review the National Occupational Analyses for your trade.
    i. review the scope of work for your occupation and identify the industry sectors and job types requiring your trade
    ii. identify the trends of your trade
    iii. provide a list of personal protective equipment required for your trade

CM2150 Workplace Communications

Description:

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

Learning Outcomes:

- Understand and apply communication skills as outlined in the Employability Skills 2000, Conference Board of Canada.
- Understand the importance of well-developed writing skills in business and in career development.
- Understand the purpose of the various types of business correspondence.
- Examine the principles of effective business writing.
- Examine the standard formats for letters and memos.
- Write effective letters and memos.
- Examine the fundamentals of informal reports and the report writing procedure.
- Produce and orally present an informal report.
- Examine effective listening skills and body language in communication.

Pre-Requisites: None

Course Duration: 45 Hours

Objectives and Content:

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

2. Explain the rules of subject-verb agreement.

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

4. Examine the value of business writing skills.
    i. describe the importance of effective writing skills in business
    i. describe the value of well-developed writing skills to career success as referenced in the Employability Skills

5. Examine principles of effective business writing.
    i. discuss the rationale and techniques for fostering goodwill in business communication, regardless of the circumstances
    ii. review the importance of revising and proofreading
    iii. differentiate between letter and memo applications in the workplace and review samples
    iv. identify the parts of a business letter and memo
    v. review the standard formats for business letters and memos
    vi. examine samples of well-written and poorly written letters and
    vii. memos
    viii. examine guidelines for writing sample letters and memos which convey: acknowledgment, routine request, routine response, complaint, refusal, persuasive request and letters of appeal

6. Examine the fundamentals of informal business reports.
    i. identify the purpose of the informal report
    ii. identify the parts and formats of an informal report
    iii. identify methods of information gathering
    iv. describe the methods of referencing documents
    v. review the importance of proof reading and editing

7. Examine types of presentations.
    i. review and discuss components of an effective presentation

ii. review and discuss delivery techniques
iii. review and discuss preparation and use of audio/visual aids
iv. discuss and participate in confidence building exercises used to prepare for giving presentations

8. Interpersonal communications.
   i. examine and apply listening techniques
   ii. discuss the importance of body language

Practical Requirements:

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

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

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

4. Present an effective presentation.

5. Evaluate presentations.

MR1220 Customer Service

Description:

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

Learning Outcomes:

- Define customer service.
- Explain why service is important.
- Describe the relationship between "service" and "sales."
- Demonstrate an understanding of the importance of a positive attitude.
- Demonstrate methods of resolving customer complaints.

Pre-Requisites: None

Course Duration: 30 Hours

Objectives and Content:

1. Define quality service.
    i. identify and discuss elements of customer service
    ii. explain the difference between service vs. sales or selling
    iii. explain why quality service is important
    iv. identify the various types of customers and challenges they may present
    v. describe customer loyalty

vi. examine barriers to quality customer service

2. Explain how to determine customer's wants and needs.
   i. identify customer needs
   ii. explain the difference between customer wants and needs
   iii. identify ways to ensure repeat business

3. Demonstrate an understanding of the importance of having a positive attitude.
   i. identify and discuss the characteristics of a positive attitude
   ii. explain why it is important to have a positive attitude
   iii. explain how a positive attitude can improve a customer's satisfaction
   iv. define perception and explain how perception can alter us and customers
   v. describe methods of dealing with perception

4. Communicating effectively with customers.
   i. describe the main elements in the communication process
   ii. identify some barriers to effective communication
   iii. explain why body language is important
   iv. define active listening and state why it is important
   v. identify and discuss the steps of the listening process
   vi. identify and discuss questioning techniques

5. Demonstrate using the telephone effectively.
   i. explain why telephone skills are important
   ii. describe the qualities of a professional telephone interaction

6. Demonstrate an understanding of the importance of asserting oneself.
   i. define assertiveness
   ii. discuss assertive techniques
   iii. explain the use of assertiveness when dealing with multiple customers

7. Demonstrate techniques for interacting with challenging customers in addressing complaints and resolving conflict.
   i. examine and discuss ways to control feelings

ii. examine and discuss ways to interact with an upset customer
iii. examine and discuss ways to resolve conflict/customer criticism
iv. examine and discuss ways to prevent unnecessary conflict with customers

Practical Requirements:

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

SP2330 Quality Assurance/Quality Control

Description:

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

Learning Outcomes:

- Develop the skills and knowledge required to apply quality assurance/quality control procedures as related to the trade.

- Develop an awareness of quality principles and processes.

- Apply quality assurance/quality control procedures in a shop project.

Pre-Requisites: None

Course Duration: 30 Hours

Objectives and Content:

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

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

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

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

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

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

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

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

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

10. Explain the concepts of quality.
    i. cost of quality
    ii. measurement of quality
    iii. elements of quality
    iv. elements of the quality audit
    v. quality standards
    vi. role expectations and responsibilities

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

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

Practical Requirements:

1. Apply quality control to a project.
    i. follow QA/QC procedures for drawings, plans and specifications in applicable occupations
    ii. calibrate measuring instruments and devices in applicable occupations.
    iii. interpret required standards
    iv. follow QA/QC procedures for accepting raw materials
    v. carry out the project
    vi. control the quality elements (variables)
    vii. complete QA/QC reports

MC1050 Introduction to Computers

Description:

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

Learning Outcomes:

Upon completion of this course, students will have a basic understanding of:

- Computer systems and their operation.
- Popular software packages, their applications.
- Security issues of computers.

Pre-Requisites: None

Course Duration: 30 Hours

Objectives and Content:

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

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

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

4. Describe windows software.
    i. start and quit a program
    ii. demonstrate how to use the help function
    iii. locate a specific file using the find function
    i. identify system settings: wall paper, screen saver, screen resolution, background
    iv. start a program by using the run command
    v. shutting down your computer

5. Identify file management commands.
    i. create folders
    ii. maximize and minimize a window
    iii. describe windows task bar

6. Describe keyboards.
    i. identify and locate alphabetic and numeric keys
    ii. identify and locate function key and special keys

7. Describe word processing.
    i. describe windows components
    ii. menu bar
    iii. menu indicators
    iv. document window
    v. the status bar
    vi. the help feature
    vii. insertion point movements

8. Describe the procedure used to develop a document.
    i. enter text
    ii. change the display

9. Describe the procedure for opening, saving and exiting documents.
    i. saving a document
    ii. closing a document.
    iii. starting a new document Window
    iv. opening a document
    v. exiting word processor

10. Describe the procedure for editing a document.
    i. adding new text
    ii. deleting text
    iii. using basic format enhancement (split and join paragraphs, insert text)

11. Describe the main select features.
    i. identify a selection
    ii. moving a selection
    iii. copying a selection
    iv. deleting a selection
    v. saving a selection

12. Explain how to change layout format.
    i. changing layout format: (margins, spacing, alignment, paragraph indent, tabs, line spacing, page numbering)

13. Explain how to change text attributes.
    i. changing text attributes: (bold, underline, font, etc.)

14. Describe the auxiliary tools.
    i. using spell check and thesaurus

15. Describe print features.
    i. selecting the print feature: (i.e. number of copies and current
    ii. document)
    iii. identifying various options in print screen dialogue box

16. Examine and discuss electronic spreadsheet.
    i. spreadsheet basics
    ii. the worksheet window

17. Describe menus.
    i. menu bar
    ii. control menu
    iii. shortcut menu
    iv. save, retrieve form menus

18. Describe the components of a worksheet.
    i. entering constant values and formulas
    ii. using the recalculation feature

19. Describe use ranges.
    i. typing a range for a function
    ii. pointing to a range for a function
    iii. selecting a range for toolbar and menu commands

20. Describe how to print a worksheet.
    i. printing to the screen
    ii. printing to the printer
    iii. printing a selected range

21. Describe how to edit a worksheet.
    i. replacing cell contents
    ii. inserting and deleting rows and columns
    iii. changing cell formats
    iv. changing cell alignments
    v. changing column width
    vi. copying and moving cells

22. State major security issues in using computers.
    i. pass words
    ii. accessing accounts
    iii. viruses and how they can be avoided
    iv. identity theft and ways to protect personal information

v. demonstrate how to view directory structure and folder content
vi. organize files and folders
vii. copy, delete, and move files and folders

23. Describe how to use electronic mail.
    i. e-mail etiquette
    ii. e-mail accounts
    iii. e-mail messages
    iv. e-mail message with attachments
    v. e-mail attachments
    vi. print e-mail messages
    vii. deleting e-mail messages

24. Explain the internet and its uses.
    i. the world wide web(www)
    ii. accessing web sites
    iii. internet web browsers
    iv. internet search engines
    v. searching techniques
    vi. posting documents on-line

Practical Requirements:

1. Create a document using word processing.

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

3. Prepare and send e-mails with attachments.

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

5. Develop and print a spread sheet.

6. Post a document on-line.

SD1700 Workplace Skills

Description:

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

Learning Outcomes:

Upon completion of this course, students will be able to:

- Participate in meetings.

- Define and discuss basic concepts of:
    - unions
    - workers' compensation
    - employment insurance
    - workers' rights
    - human rights
    - workplace diversity
    - gender sensitivity

Pre-Requisites: None

Course Duration: 30 Hours

Objectives and Content:

1. Meetings.
    i. identify and discuss meeting format and preparation required for a meeting
    ii. explain the purpose of an agenda
    iii. explain the roles and responsibilities of meeting participants
    iv. explain the purpose of motions and amendments and withdrawals
    v. explain the procedure to delay discussion of motions

vi. explain the voting process

2. Unions.
   i. state why unions exist
   ii. give a concise description of the history of Canadian labour
   iii. explain how unions function
   iv. explain labour's structure
   v. describe labour's social objectives
   vi. describe the relationship between Canadian labour and the workers
   vii. describe the involvement of women in unions

3. Worker's Compensation.
   i. describe the aims, objectives, benefits and regulations of the Workplace Health, Safety and Compensation Commission
   ii. explain the internal review process

4. Employment Insurance.
   i. explain employment insurance regulations
   ii. describe how to apply for employment insurance
   iii. explain the appeal process
   iv. identify the components of a letter of appeal

5. Worker's rights.
   i. define labour standards
   ii. explain the purpose of the Labour Standards Act
   iii. identify regulations pertaining to:
      - hours of work
      - minimum wages
      - employment of children
      - vacation pay
   iv. explain the purpose of the Occupational Health and Safety Act as it refers to workers' rights

6. Human Rights.
   i. describe what information cannot be included on an employment application
   ii. describe what information cannot be included in an interview

iii. examine the Human Rights Code and explain the role of the Human Rights Commission
iv. define harassment in various forms and identify strategies for prevention

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

8. Gender sensitivity.
   i. explore gender and stereotyping issues in the workplace by identifying strategies for eliminating gender bias

Practical Requirements:

1. Prepare an agenda.

2. Participate in a meeting.

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

SD1710 Job Search Techniques

Description:

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

Learning Outcomes:

Upon completion of this course, students will be able to:

- Demonstrate effective use of job search techniques.

Pre-Requisites: None

Course Duration: 15 Hours

Objectives and Content:

1. Identify and examine employment trends and opportunities.

2. Identify sources that can lead to employment.

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

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

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

6. Discuss the necessity of fully completing application forms.

7. Establish the aim/purpose of a resume.

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

9. Explore characteristics of an effective cover letter.

10. Identify commonly asked questions in an interview.

11. Explore other employment related correspondence.

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

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

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

Practical Requirements:

1. Complete sample application forms.

2. Write a resume.

3. Write an effective cover letter.

4. Establish a portfolio.

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

6. Identify three potential employers from the Apprenticeship Employment Gateway, Apprenticeship and Certification website.

SD1720 Entrepreneurial Awareness

Description:

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

Learning Outcomes:

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

- Identify the various types of business ownership, the advantages and disadvantages of self-employment and identify the characteristics of an entrepreneur.

- State the purpose and identify the main elements of a business plan.

Pre-Requisites: None

Course Duration: 15 Hours

Objectives and Content:

1. Explore self-employment: An alternative to employment.
    i. identify the advantages and disadvantages of self-employment vs. regular employment
    ii. differentiate between an entrepreneur and a small business owner
    iii. evaluate present ideas about business people

2. Identify and discuss various types of business ownership.
    i. explore the characteristics of entrepreneurs
    ii. identify characteristics common to entrepreneurs
    iii. compare one's own personal characteristics with those of entrepreneurs
    iv. examine one's present ideas about business people

3. Identify business opportunities.
    i. distinguish between an opportunity and an idea
    ii. examine existing traditional and innovative business ventures
    iii. identify and summarize the role of various agencies that support business development

4. Review the entrepreneurial process.
    i. explain the entrepreneurial process
    ii. describe the purpose of a business plan

Block 2

LT1300 Site Layout and Surveying

Learning Outcomes:

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

Pre-requisites: Completion of Entry level

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory.**

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.

Pre-requisites: LT1300

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: LT1300, LT2100

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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

Course 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 chart 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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.

Pre-requisites: LT1300, LT2100, LT2110

Course 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 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: LT1300, LT2100, LT2110

Course 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 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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

Course 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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.

Pre-requisites: LT1300, LT2100, LT2110

Course 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 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

1. Install landscape pavers**.**

Block 3

LT2210 Plant Identification III

Learning Outcomes:

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

Pre-requisites: Block 2

Course 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.
    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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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.

Pre-requisites: Block 2

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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 2

Course 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: Block 2

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: Block 2

Course Duration: 42 Hours

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.
    i. regulatory
    ii. physical/mechanical
    iii. cultural
    iv. biological
    v. 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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: Block 2

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: Block 2

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objectives outlined below are **mandatory**.

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.

Pre-requisites: Block 2

Course Duration: 30 Hours

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:

Practical skills enhance the apprentices' ability to meet the objectives of this course. The learning objective outlined below is **mandatory**.

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

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

NOA Comparison Table

NOA Sub-task		Plan of Training Unit	
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

NOA Sub-task		Plan of Training Unit	
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

NOA Sub-task		Plan of Training Unit	
		LT2200	Estimating
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

NOA Sub-task		Plan of Training Unit	
		LT1240	Plan Reading
		LT2230	Plant Inventory Management
		LT1280	Plant Installation
		LT1230	Fertilizers
		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

NOA Sub-task		Plan of Training Unit	
			Machinery
		LT1240	Plan Reading
		LT2230	Plant Inventory Management
		LT1280	Plant Installation
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

NOA Sub-task		Plan of Training Unit	
		LT1300	Site Layout and Surveying
		LT2150	Landscape Pavers
		LT2120	Landscape Walls
		LT2130	Concrete Construction
		LT2140	Wood Construction
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
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
8.02	Maintains grass/turf.	LT1110	Hand and Power Tools

NOA Sub-task		Plan of Training Unit	
		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
9.01	Maintains drainage systems.	LT1110	Hand and Power Tools
		LT1130	Vehicles, Equipment and Machinery
		LT2100	Job Planning
		LT1240	Plan Reading

NOA Sub-task		Plan of Training Unit	
		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
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

NOA Sub-task		Plan of Training Unit	
			Machinery
		LT2120	Landscape walls
		LT2150	Landscape Pavers
		LT2130	Concrete Construction
		LT2140	Wood Construction
		LT2180	Water Features and Low Voltage Landscape Lighting