

Horticultural Technician Apprenticeship Curriculum Standard

Trade Name & Code	Horticultural Technician 441C
Implementation Date of New Standard	January 3rd, 2023
Implementation Plan	<ul style="list-style-type: none"> All apprentices with initial training agreements registered on or after January 3rd, 2023 must be trained to this new curriculum. A Horticultural Technician Cross Reference Guide is available and maps the skill competencies from the Training Standard to the Curriculum content.
Impact on the Training Standard	<ul style="list-style-type: none"> The new Horticultural Technician Curriculum Standard is harmonized with the Horticultural Technician Training Standard (2019) and the Red Seal Occupational Standard (2017)
Curriculum Standard Access	As of January 3rd, 2023 the new Curriculum Standard for Horticultural Technician 441C will be available on the Skilled Trades Ontario website.
Overview of Changes	<p>The content of the Horticultural Technician Curriculum Standard was significantly revised to be harmonized with the 2017 Red Seal Occupational Standard for the Trade of Landscape Horticulturist.</p> <p>The application of horticultural principles, plant health, biodiversity and environmental practices are emphasised throughout the standard, with the expectation that this starts at the design phase and carries through to construction and maintenance. Interior softscape installation and maintenance were also added as new focuses.</p> <p>The installation and maintenance of green infrastructure, green roofs and walls, and rainwater and stormwater management systems, installation of water features and low voltage lighting are new content within this curriculum.</p> <p>Presenting a professional image, marketing and sales techniques, leadership and mentoring skills are also introduced.</p>
Structural Changes	<p>The structure of the Horticultural Technician curriculum standard has been significantly revised as a part of the process to harmonize with the Landscape Horticulturist, Red Seal Occupational Standard (RSOS). The RSOS includes 4 sections, Trade Foundational Skills, Apply Horticultural Principles, Performs Landscape Construction and Performs Landscape Maintenance. http://www.red-seal.ca/docms/landscapehorticulturist_rsos2018_eng.pdf</p> <p>The following new provincial structure, mirrors those Red Seal sections:</p> <ul style="list-style-type: none"> 10 reportable subjects in Level 1 (11 reportable subjects in 2010 curriculum) 10 reportable subjects in Level 2 (9 reportable subjects in the 2010 curriculum)

**Summary of
Hours
Reallocation**

Program Summary

Number	Reportable Subjects	Hours Total	Hours Theory	Hours Practical
Level 1				
3625	Trade Practices -Safety, Tools and Equipment	48	36	12
3626	Work and Project Organization	24	24	0
3627	Communication Skills	24	18	6
3628	Horticultural Principles	60	48	12
3629	Environmental Principles-Soil, Water, Environmental Stewardship	36	30	6
3630	Pre-Construction Activities	30	24	6
3631	Hardscape Installation and Maintenance	48	12	36
3632	Softscape Installation and Maintenance-Turf	30	24	6
3633	Softscape Installation and Maintenance	48	36	12
3634	First Aid-CPR	12	6	6
	Total	360	258	102
Level 2				
3635	Site Preparation and Protection	48	18	30
3636	Project Preparation	24	18	6
3637	Marketing and Sales	24	18	6
3638	Plant Identification and Management	42	30	12
3639	Environmental Practices	48	48	0
3640	Hardscape Structures Installation and Maintenance	48	12	36
3641	Plant Health Care –Pest, Diseases & Invasive Species management	30	24	6
3642	Interior Landscape Installation and Maintenance	24	18	6
3643	Green Infrastructure Installation and Maintenance	48	42	6
3644	Mentoring and Training Techniques	24	18	6
	Total	360	246	114

Program Summary 2010

Reportable Subject	Duration (Hours)		
	Total	Theory	Application
Level 1: 12 weeks			
S0561 - Workplace Safety	24	24	0
S0562 - Workplace Communications	24	24	0
S0563 - Plant Science	48	24	24
S0564 - Turf Management 1	36	27	9
S0565 - Plant Identification 1	36	18	18
S0566 - Plant Materials 1	30	20	10
S0567 - Trade Calculations	24	24	0
S0568 - Landscape Construction 1	52	8	44
S0569 - Integrated Pest Management and Plant Health Care	48	36	12
S0570 - Landscape Equipment Maintenance	24	6	18
S0571 - First Aid and CPR Training	14	8	6
Sub-Total	360	219	141
2010 - Level 2: 12 weeks			
S0572 - Plant Propagation	48	12	36
S0573 - Plant Production	48	24	24
S0574 - Irrigation	24	12	12
S0575 - Turf Management 2	36	24	12
S0576 - Plant Identification	36	18	18
S0577 - Plant Materials 2	24	12	12
S0578 - Site Layout, Grading and Surveying	36	18	18
S0579 - Landscape Construction 2	84	24	60
S0580 - Plan Reading and Quantity Take-off, Quote Preparation	24	12	12
Sub-Total	360	156	204
TOTAL	720	375	345

Content Changes

3625 Trade Practices-Safety, Tools and Equipment, incorporates content from S0561 Workplace Safety and S0570-Landscape Equipment Maintenance, as well as the learning objective on safety related legislation from S0568 Landscape Construction.

3626 Work and Project Organization introduces content on the types of trade related documentation and reference material, previously this content was covered in S0580 Plan Reading, Quantity Take off and Quote Preparation and within context in other subjects. Content related to on-site receiving, storing, transporting plants, materials and equipment that was previously in S0566 Plant Materials 1 and S0577 Plant Materials 2 is also now in 3626.

3627 Communication Skills updates the content that was in S0562 Workplace Communications and includes the use of electronic communication tools.

3628 Horticultural Principles- Plant Science incorporates content from S0563 Plant Science, S0565 Plant Identification 1 and S0572 Plant Propagation.

3629 Environmental Principles-Soil, Water, Environmental Stewardship introduces the principles of environmental stewardship as it relates to soil and water. This reportable, clusters the content on soil that was previously in S0563 Plant Science and the content on water stewardship practices that was previously in Level 2, S0574 Irrigation.

3630 Pre-Construction Activities introduces content on interpreting landscape drawings and documentation related to construction site preparation. It also incorporates content on trade calculations and use of measuring devices, previously in S0567 Trade Calculations and content on performing site measurements and performing grading formerly in S0578 Site Layout, Grading and Surveying.

3631 Hardscape Installation and Maintenance replaces S0568 - Landscape Construction 1 with content on installation of landscape paving (surface materials) steps and retaining walls.

3632 Softscape Installation and Maintenance-Turf integrates the content from S0564 Turf Management 1 and S0575 Turf Management 2.

3633 Softscape Installation and Maintenance includes the content on the installation, transplanting and plant maintenance practices that was in S0566 Plant Materials 1. The subject also includes the introduction of pruning techniques for shrubs, groundcovers and vines that was previously covered in S0565 Plant Identification 1.

3634 First Aid-CPR replaces S0571 First Aid and CPR Training.

3641 Plant Health Care (level 2) includes content from level 1, S0569 Integrated Pest Management and Plant Health Care.

3635 Site Preparation and Organization includes content on procedures to perform site assessment, for protection, identification of existing and proposed grading and drainage patterns and inspection of site-specific environmental conditions and evaluation of soil erosion.

3636 Project Preparation- This new reportable introduces content on planning activities to prepare for landscape horticultural projects such as interpreting drawings and design intent. –Additional content on trade related documentation, using, reference material, maintaining records such as interpreting drawings and design intent. There is also additional emphasis on traded related documentation, reference material, maintaining records, previously covered in previously in S05080 Plan Reading, Quantity Take off and Quote Preparation.

3637 Marketing and Sales is a new reportable subject that introduces selling and marketing techniques and methods for developing and maintaining customer relations.

The subject also includes the concepts of controlling inventory that were previously included in S0566, Plant Materials 1 and S0573 Plant production. The procedures for calculating and estimating job requirements, that was previously in S0580 Plan Reading, Quantity Takeoff and Quote Preparation are now included in 3637 Marketing and Sales.

3638 Plant Identification and Management replaces content from S0576 Plant Identification 2 and includes management practices for repairing damaged plants and pruning techniques for trees.

3639 Environmental Practices is a new reportable subject that introduces the concept of biodiversity and continues with water stewardship practices (principles introduced in 3629) Some of the content that was previously in S0574 (Irrigation S0574.12.2)

3640 Hardscape Structures Installation and Maintenance, this reportable replaces S0579 Landscape Construction 2 and incorporates content on installing and maintaining irrigation systems that was previously in S0574 Irrigation. New content includes the installation of low voltage lighting and water features.

3641 Plant Health Care replaces content from S0569 Integrated Pest Management and Plant Health Care.

3642 Interior Landscape Installation and Maintenance is a new reportable subject. Some aspects of the content within S0563 Plant Science and S0565 Plant Identification were applicable to interior plants. There was only one specific reference to interior plants in the 2010 curriculum which was in S0569 Integrated Pest Management and Plant Health Care.

	<p>3643 Green Infrastructure Installation and Maintenance. This new reportable subject includes procedures to install and maintain green infrastructure, including applications for maximizing green space and permeable surfaces, installation of erosion control materials, green roofs and walls, and rainwater and stormwater management systems.</p> <p>3644 Mentoring and Training Techniques is a new reportable subject that covers some of the concepts that were previously in Workplace Communications S0562 and includes strategies for enhancing personal and team development. However, with experience, Horticultural Technicians may act as mentors and trainers to apprentices in the trade and move to leadership positions. For this reason, the concepts of leadership, facilitating skills and professional development planning are introduced.</p>
<p>Content Added</p>	<p>3636 Project Preparation- new content introduces requirements for participating in planning activities to prepare for landscape horticultural projects such as interpreting drawings and design intent.</p> <p>3639 Environmental Practices introduces the concept of biodiversity</p> <p>3640 Hardscape Structures Installation and Maintenance, new content includes the installation of low voltage lighting and water features.</p> <p>3637 Marketing and Sales- marketing techniques for product and services and strategies for maintaining customer relations are introduced.</p> <p>3642 Interior Landscape Installation and Maintenance. This new reportable subject provides a specific focus on the procedures for installing and maintaining interior landscapes.</p> <p>3643 Green Infrastructure Installation and Maintenance- new content includes: procedures to install and maintain green infrastructure, installation, green roofs and walls, and rainwater and stormwater management systems.</p> <p>3644 Mentoring and Training Techniques- new content includes the introduction of concepts on leadership, methods for developing and facilitating learning skills and preparing a professional development plan.</p>
<p>Content Removed</p>	<p>0573 Plant Production- the content on nursery plant production (preparation, harvesting for market/installation (storage, holding, clean up and related record keeping) and planting in this context were removed from the Standard as these are not part of the scope of the trade.</p> <p>Plant installation is included in 3633- Softscape Installation and Maintenance and 3642 Interior Landscape Installation and Maintenance Content on plant propagation is included in 3628-Horticultural Principles.</p>

General Notes & Rationale

Similar to the on-the-job Training Standard for this trade, the philosophical underpinnings of the curriculum content are the principles of biodiversity, environmental stewardship, and sustainability. The curriculum supports and reinforces these principles through landscape and horticultural practices such as water optimization, conservation and protection, the use of native and natural materials, green infrastructure (green roofs and walls,) and using tools and equipment that produce fewer emissions and reduce noise and vibration.

With increased jurisdictional environmental regulations, Horticultural Technicians play a significant role with their products and services to assist in adaption to climate change and stormwater management. Horticultural Technicians need knowledge and skills to install and maintain stormwater management systems (the use of bioswales, retention ponds, rain gardens).

The work is becoming more intricate because of the complexity of the designs and expanding customer requests for items such as outdoor rooms with low voltage lighting, water features, organic horticulture, and sustainable design. As such, Horticultural Technicians need to be knowledgeable about the design and planning process, and how to install these new features, while communicating effectively to facilitate work with clients, co-workers, and other trades.

As Horticultural Technicians advance in their careers, they may be in positions of leadership and have responsibility for mentoring other apprentices. For these reasons, additional content was added on marketing techniques for product and services, maintaining customer relations, leadership, and mentoring.