

Horticultural Technician Apprenticeship Training Standard

Trade Name & Code	<ul style="list-style-type: none"> 441C Horticultural Technician 					
Implementation Date of New Standard	<ul style="list-style-type: none"> Tuesday September 6th, 2022 					
Implementation Plan	<ul style="list-style-type: none"> All apprentices with initial training agreements registered on or after must be trained to the new curriculum. On or after Tuesday September 6th, 2022, any apprentice who loses his or her training standard must be trained to and completed with the new standard even if they began their apprenticeship with the previous versions. 					
Impact on the Curriculum Standard	<ul style="list-style-type: none"> The current Curriculum Standard for 441C is posted to the Skilled Trades Ontario website. A new curriculum has been revised to be harmonized to complement the new Training Standard. This will be released at date to be determined. The new Horticultural Technician Training Standard is harmonized with the Red Seal Occupational Standard (2017). 					
Training Standard Access	<p>On the job as of: Tuesday September 6th, 2022</p> <ul style="list-style-type: none"> The new Logbook will be available on the Skilled Trades Ontario website. Apprentices who register in 441C Horticultural Technician trade will be sent a printed Logbook. If the apprentice wants a copy of the Logbook before receiving the printed copy in the mail, the apprentice can download/print a copy from the Skilled Trades Ontario website. 					
Format Changes	<p>The content and structure of the Horticultural Technician on-the-job training standard has been significantly revised as a part of the process to harmonize with the Landscape Horticulturist, Red Seal Occupational Standard (RSOS). It includes 4 sections, Trade Foundational Skills, Apply Horticultural Principles, Performs Landscape Construction and Performs Landscape Maintenance.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Trade Foundational Skills</p> <ul style="list-style-type: none"> 9290 Perform Safety-Related Functions 9291 Use Tools, Equipment and Vehicles 9292 Organize Work 9293 Participate in Marketing and Sales 9294 Communication and Mentoring Techniques </td> <td style="width: 50%; vertical-align: top;"> <p>Apply Horticultural Principles</p> <ul style="list-style-type: none"> 9295 Manage Plant Health and Growing Conditions 9396 Manage Pests, Diseases, and Invasive Species 9297 Apply Environmental Practices </td> </tr> <tr> <td style="vertical-align: top;"> <p>Perform Landscape Construction</p> <ul style="list-style-type: none"> 9298 Perform Pre-Construction Activities 9299 Install Hardscapes 9300 Install Irrigation Systems and Water Features 9301 Install Softscapes 9302 Install Green Infrastructure </td> <td style="vertical-align: top;"> <p>Perform Landscape Maintenance</p> <ul style="list-style-type: none"> 9303 Maintain Hardscapes 9304 Maintain Softscapes 9305 Maintain Green Infrastructure </td> </tr> </table>		<p>Trade Foundational Skills</p> <ul style="list-style-type: none"> 9290 Perform Safety-Related Functions 9291 Use Tools, Equipment and Vehicles 9292 Organize Work 9293 Participate in Marketing and Sales 9294 Communication and Mentoring Techniques 	<p>Apply Horticultural Principles</p> <ul style="list-style-type: none"> 9295 Manage Plant Health and Growing Conditions 9396 Manage Pests, Diseases, and Invasive Species 9297 Apply Environmental Practices 	<p>Perform Landscape Construction</p> <ul style="list-style-type: none"> 9298 Perform Pre-Construction Activities 9299 Install Hardscapes 9300 Install Irrigation Systems and Water Features 9301 Install Softscapes 9302 Install Green Infrastructure 	<p>Perform Landscape Maintenance</p> <ul style="list-style-type: none"> 9303 Maintain Hardscapes 9304 Maintain Softscapes 9305 Maintain Green Infrastructure
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Content changes
Skills Added

The content of the Horticultural Technician Training Standard was revised significantly to be harmonized with the 2017 Red Seal Occupational Standard for the Trade of Landscape Horticulturist.

The Horticultural Technician trade promotes and practices sustainable landscape horticulture. With an increased global awareness of the environment, climate change, and health and wellness, the public is seeking the leadership of the trade to conserve, protect, and enhance ecosystems and living spaces. As such, the principles and practices of landscape and horticulture and environmental stewardship are the foundation of this document and are imbedded in the competencies required by an apprentice to complete the program. Applying horticultural practices and using sound environmental practices are emphasized throughout the standard.

The practices of environmental stewardship, biodiversity enhancement and soil and water stewardship are incorporated into new skills in 9297: Apply Environmental Practices. These include:

- 9297.01 Use sustainable horticultural and landscaping materials
- 9297.02 Use sustainable materials and elements
- 9297.03 Select and maintain tools and equipment
- 9297.04 Use practices to integrate on-site elements
- 9297.05 Select plants such as natives and edibles
- 9297.06 Identify soil quality and condition
- 9297.07 Implement a soil stewardship plan

Optional skills within Install Green Infrastructure Systems (9302) and Maintain Green Infrastructure (9305) were also added to support the focus on environmental practices.

- 9305.01 Maintain green roofs, walls and components
- 9305.02 Maintain stormwater management systems
- 9305.03 Maintain erosion control
- 9305.04 Maintain biodiverse plantings and natural areas

Also added were the skills:

- 9300.03 Install live and decorative components in water features
- 9303.01 Maintain drainage systems

Revision/ Restructuring of skills include:

- Protect Self and Others (U6621) are now covered in 9290 Perform Safety-Related Functions
- U6622 Communicate in the Workplace was restructured and the skills and concepts included in a new skill set 9294 Communication and Mentoring Techniques. This section includes the following new skills:
 - 9294.03 Coach and mentor apprentices or colleagues
 - 9294.04 Demonstrate leadership
 - 9294.05 Participate in continuous learning were added to this skill set

- U6623: Control Plant Pests and Disorders are now covered in 9296 Manage Pests, Diseases and Invasive Species
- 9295: Manage Plant Health and Growing Condition and 9304 Maintain Softscapes includes the skills previously in U6625 Manage Gardens and Grounds, U6626 Apply Fertilizers, U6630 Prune Plants and U6625.05 (Maintain gardens)
- The skills in 9295 are structured as:
 - 9295.01 Identify plants and plant requirements
 - 9295.02 Assess the health and vigor of plants
 - 9295.03 Assess plant locations for suitability
 - 9295.04 Implement corrective measures to meet plant requirements
 - 9295.05 Establish pruning objectives
 - 9295.06 Prune plant material
 - 9295.09 Condition plants for growing-on
- The skills in U6631 Establish Turfgrass are now part of 9304 Maintain Softscape:
 - 9301.05 Install Sod
- The skills in U6632 Mow Turfgrass and U6633 Cultivate Turfgrass are included in:
 - 9304.03 Maintain Turfgrass (Maintain Softscape)
- The skills from U6627 Irrigate Plants are now integrated into 9301 Install Softscapes
 - Install growing media
 - Install exterior landscape plants
 - Installing Sod
- Skills related to maintaining records that were in various sections of the old standard were replaced with the skill set: 9292.03 Maintain records. The skills removed were: U6623.04 (Maintain update logs/Control plant and Pests and Disorders) U6626.08 (Apply Fertilizers), and U6627.08 Maintain clear and concise records (Irrigation)
- Skills related to selecting tools and equipment and maintain equipment are captured in skill set 9291 Use Tools, Equipment and Vehicles, that includes:
 - 9291.01 Use hand tools and equipment
 - 9291.02 Use power tools and equipment
 - 9291.03 Use measuring equipment
 - 9291.04 Maintain tools and equipment
 - 9291.05 Use vehicles, motorized equipment, trailers and attachments
 - 9291.06 Maintain vehicles, motorized equipment, trailers and attachments

Skills removed from “Select Tools and Equipment” were: U6624.04, U6625.02, U6632.02, U6633,02, U6634,03, U6635.03, U6636.03, U6637.03

Maintain Equipment skills removed: U6625.11. U6627.04, U6632.11, U6634.16, U6635.09

Skill(s) or Skill Set(s) Removed	<p>The skills that relate to working in a production facility that were in Produce Plants (U6629) in the old standard were removed. These include:</p> <ul style="list-style-type: none"> • U6629.02 Select container/field productions site • U6629.06 Harvest and grade plants • U6629.07 Place plants in holding environment • U6629.09 Maintain production records
Optional Skills	<ul style="list-style-type: none"> • U6628 Propagate plants became 9295.07 Propagate Plants in the new standard and remains an optional skill within 9295.0 Manage Plant Health and Growing Conditions
New Optional Skills or Mandatory Skills that became Optional	<p>Optional skills added:</p> <ul style="list-style-type: none"> 9293.03 Prepare estimates 9297.08 Identify water quality 9300.02 Install water feature infrastructure 9300.04 Install low voltage landscape lighting 9302.01 Select green infrastructure technologies, methods and products 9302.02 Install green roofs, walls and components 9302.03 Install stormwater management systems 9303.06 Maintain water features 9303.07 Maintain landscape lighting 9303.08 Perform snow and ice control 9305.01 Maintain green roofs, walls and components <p>Optional Skills that became mandatory</p> <p>The skill sets related to installing hardscapes, that were optional in the old standard, are now part of 9299 Install Hardscapes in the new standard and are mandatory. The skills removed are:</p> <ul style="list-style-type: none"> • U6634 Install Horizontal Natural /Precast Stone Surfaces • U6635 Perform Wood Construction • U6636 Install Horizontal Concrete Surfaces • U6637 Construction Retaining Walls • U6632 Mow Turfgrass <p>Mandatory Skills that became optional:</p> <p>The skill sets from U6627 Irrigate Plants (U6627.01- U6627.08) were replaced with 9300 Install Irrigation Systems and this is now an optional skill.</p> <ul style="list-style-type: none"> ○ 9300.01 Install Irrigation Systems

2010	2022
U6621 Protect Self and Others	9290 Perform Safety-Related Functions
Select Tools and Equipment U6624.04, U6625.02, U6632.02, U6633.02, U6634.03, U6635.03, U6636.03, U6637.03 Maintain Equipment U6625.11, U6627.04, U6632.11, U6634.16, U6635.09	9291 Use Tools, Equipment and Vehicles
Maintain Records U6623.04 Maintain update logs U6624.08 Maintain and Update Records U6627.08 Maintain clear and concise records U6628.09 Maintain Propagation Records U6629.09 Maintain Production Records U6632.12 Maintain records U6633.11 Maintain installation and or irrigation records	9292 Organize Work <ul style="list-style-type: none"> • 9292.03 Maintain Records
	9293 Participate in Marketing and Sales
U6622 Communicate in the Workplace	9294 Communication and Mentoring Techniques <ul style="list-style-type: none"> • 9294.03 Coach and mentor apprentices or colleagues • 9294.04-Demonstrate leadership • 9294.05 Participate in continuous learning
U6624 Transplant Install/Plant Material U6625 Manage Gardens and Grounds U6626 Apply Fertilizers U6630 Prune Plants U6628 Propagate Plants U6629 Produce Plants	9295 Manage Plant Health and Growing Conditions <ul style="list-style-type: none"> • 9295.07 Propagate Plants • 9295.08 Maintain propagation environment
U6623 Control Plant Pests and Disorders	9296 Manage Pests, Diseases and Invasive Species
	9297 Apply Environmental Practices
	9298 Perform Pre-Construction Activities
U6634 Install Horizontal Natural /Precast Stone Surfaces U6635 Perform Wood Construction U6636 Install Horizontal Concrete Surfaces U6637 Construction Retaining Walls	9299 Install Hardscapes
U6627 Irrigate Plants	9300.01 Install Irrigation Systems and Water Features

	U6631 Establish Turfgrass	9301 Install Softscapes • 9301.05 Install Sod
		9302 Install Green Infrastructure Systems
		9303 Maintain Hardscapes
	U6632 Mow Turfgrass U6633 Cultivate Turfgrass	9304 Maintain Softscape 9304.03 Maintain Turfgrass
		9305 Maintain Green Infrastructure
General Notes & Rationale	<p>Applying horticultural practices and using sound environmental practices are emphasised throughout the standard. More attention is paid to plant health as the expectation is that this starts at the design phase and carries through to construction and maintenance. Water optimization, conservation and protection, the use of native and natural materials and green infrastructure and using tools and equipment that produce fewer emissions and reduce noise and vibration are all part of this focus.</p> <p>The demand for specialized skilled workers in the landscape horticulture trade is growing, the work is becoming more intricate because of the complexity of the designs and expanding customer requests for outdoor rooms, organic horticulture and sustainable design. In addition, government is looking to the industry to provide guidance regarding the optimization, conservation, capture and recycling of water. And the industry is also trending from seasonal work to full-time employment opportunities. The new optional skills included in the standard reflect these changes in the sector.</p>	