



8767

ARBORICULTURE (12D)

40S/40E/40M

A Horticulture Course

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Course Description

This course is intended for students transitioning from the horticulture program. The curriculum focuses on the care and maintenance of woody plants in the landscape. Topics include pruning, establishment, cultural requirements, disease, and pest management, as well as the benefits of trees to the environment.

Goal 1: Describe and apply appropriate **safety** and **health** practices as they relate to horticulture.

GLO 1.1: Create and maintain a **safe work** environment in horticulture.

- SLO 12D.1.1.1: Describe workplace safety and health procedures (e.g., S.A.F.E., right to refuse). (A3.1)
- SLO 11D.1.1.2: Identify and report hazards (e.g., electrical safety, ergonomics, material handling, chemicals) related to processes, materials, tools, and equipment used in horticulture and landscaping. (A3.7) (D1.2)
- SLO 11D.1.1.3: Outline the safety principles for working on and around electrical equipment. (A3.8) (TSA 18)
- SLO 11D.1.1.4: Follow the directions of the teacher/supervisor in regard to safe work practices.
- SLO 11D.1.1.5: Follow safe practices and procedures for facilities, processes, materials, tools, and equipment used in horticulture and landscaping (e.g., keep work area clean and organized). (A3.3)
- SLO 11D.1.1.6: Describe and use appropriate personal protective equipment (PPE) (e.g., gloves, safety glasses or goggles, hearing protection, respirator mask) and identify PPE and procedures related to PPE. (A3.2) (TSA 16)
- SLO 11D.1.1.7: Locate the first aid and eyewash stations.
- SLO 11D.1.1.8: Identify the process for reporting injuries.
- SLO 11D.1.1.9: Identify ergonomically correct procedures to avoid injury (e.g., stress, strain, lifting).
- SLO 11D.1.1.10: Identify and outline workplace fire safety principles. (A3.10) (TSA 19)
- SLO 11D.1.1.11: Identify emergency evacuation and response procedures.
- SLO 11D.1.1.12: Identify potential hazards with regard to personal apparel and grooming.

- SLO 11D.1.1.13: Demonstrate awareness of the principles of the Workplace Hazardous Materials Information Systems (WHMIS) as they apply to the horticulture industry and identify safety requirements as they apply to WHMIS. (A3.11) (TSA 13)
- SLO 11D.1.1.14: Describe the purpose of Material Safety Data Sheets (MSDS).
- SLO 11D.1.1.15: Demonstrate knowledge of the need and purpose of safe handling and application of chemical controls according to the label. (A3.4, A3.14)
- SLO 11D.1.1.16: Identify the hazards associated with working in a confined space and the preparation required to work safely in a confined space. (A3.9) (TSA 20)
- SLO 11D.1.1.17: Identify the hazards and precautions related to working with and around horticulture and landscaping equipment, including ladders and scaffolding. (A3.8)
- SLO 11D.1.1.18: Identify the need for a safety checklist in the landscaping and horticulture industries (e.g., chainsaw, power lawnmower, garden tractor).
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GLO 1.2: Demonstrate knowledge of the **Trade Safety Awareness Manual** (<www.gov.mb.ca/tce/apprent/apprentice/trade_safety/>).

No applicable SLOs.

Goal 2: Demonstrate the safe and appropriate **maintenance, management, and operation of equipment, tools, consumables, and materials.** (GHCP B3)

GLO 2.1: Demonstrate the safe and appropriate **maintenance and management of equipment, tools, consumables, and materials.**

- SLO 12D.2.1.1: Demonstrate the safe and appropriate maintenance and management of equipment, tools, consumables, and materials used in arboriculture.
- SLO 12D.2.1.2: Demonstrate an awareness of safe handling and applications of chemical controls according to the label.
- SLO 12D.2.1.3: Develop a safety checklist related to landscaping and horticulture (e.g., chainsaw, power lawnmower, garden tractor).
- SLO 12D.2.1.4: Perform routine maintenance for common hand tools and power equipment.
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GLO 2.2: Demonstrate the safe **operation of horticultural tools and equipment.**

SLO 12D.2.2.1: Demonstrate the safe operation of tools and equipment used in arboriculture.

SLO 12D.2.2.2: Demonstrate the ability to select and use measuring and hand tools, and power equipment for a task. (A4.3, A4.5, A4.7)

Goal 3: Demonstrate an understanding of the **fundamentals of horticulture.**

GLO 3.1: Demonstrate a basic understanding of **plant anatomy, morphology, and physiology.**

SLO 12D.3.1.1: Describe woody plant morphology, anatomy, and physiology.

GLO 3.2: Identify and select plants.

SLO 12D.3.2.1: Demonstrate the ability to choose an appropriate selection of trees to be established in a landscaped environment under given conditions. (A6.7, A6.8)

SLO 12D.3.2.2: Describe how each species is used in arboriculture. (GHCP A4)

SLO 12D.3.2.3: Describe the environmental conditions for the optimal growth of each species.

GLO 3.3: Demonstrate an understanding of **plant care.** (GHCP B2)

SLO 12D.3.3.1: Perform the maintenance on trees.

Goal 4: Demonstrate an understanding of **soils and growing media.**

GLO 4.1: Demonstrate an understanding of **soils and growing media.**

SLO 12D.4.1.1: Describe the effects of urban soils on trees.

SLO 12D.4.1.2: Perform field soil assessments for the purpose of tree establishment and maintenance.

SLO 12D.4.1.3: Select woody plants based on the results of soil assessments.

GLO 4.2: Demonstrate knowledge of the **effects of soils and growing media on plants.** (GHCP A7)

SLO 12D.4.2.1: Determine and apply arboricultural practices based on soil assessments.

SLO 12D.4.2.2: Conduct a soil sample and interpret results. (A9.12)

SLO 12D.4.2.3: Identify the considerations when selecting soil amendments for tree establishment and maintenance. (A9.8)

Goal 5: Understand **pest management.**

GLO 5.1: Understand the principles of **integrated pest management.**

No applicable SLOs.

Goal 6: Demonstrate an understanding of the principles of **plant installation and propagation.**

GLO 6.1: Demonstrate an understanding of the principles of **plant installation and propagation.**

SLO 12D.6.1.1: Install plant material. (GHCP B1)

Goal 7: Demonstrate an understanding of the principles of **crop production and management.**

GLO 7.1: Demonstrate an understanding of **crop production.**

No applicable SLOs.

GLO 7.2: Demonstrate an understanding of **crop management.**

No applicable SLOs.

Goal 8: Demonstrate an understanding of the **construction techniques** relevant to the horticulture industry.

GLO 8.1: Identify and demonstrate different **construction techniques.**

No applicable SLOs.

Goal 9: Understand **career opportunities** in horticulture and related environmental fields. (GHCP D1)

GLO 9.1: Describe **education and career opportunities, and professional organizations** in horticulture and related environmental fields.

SLO 12D.9.1.1: Describe education and career opportunities, and professional organizations in arboriculture.

Goal 10: Describe and demonstrate the transferable, **cross-curricular** knowledge and skills as they pertain to horticulture.

GLO 10.1: Read, interpret, and communicate information relevant to horticulture.

SLO 12D.10.1.1: Read, interpret, and communicate information relevant to arboriculture.

GLO 10.2: Apply **mathematics** knowledge and skills relevant to horticulture.

No applicable SLOs.

GLO 10.3: Apply **other subject areas** (art, physical education/health education) knowledge and skills relevant to horticulture.

No applicable SLOs.

Goal 11: Demonstrate an awareness of **sustainability** as it pertains to horticulture.

GLO 11.1: Describe the impact of **sustainability** on the health and well-being of horticulture workers and their clients, as well as the role of horticulture in society.

SLO 12D.11.1.1: Discuss the benefits of trees to human health and well-being.

GLO 11.2: Describe the horticulture industry's **sustainability practices and environmental impacts**.

SLO 12D.11.2.1: Describe sustainability practices and the environmental impacts of arboriculture.

GLO 11.3: Describe **sustainable business practices** within the horticulture industry.

SLO 12D.11.3.1: Discuss sustainable business practices that pertain to arboriculture.

Goal 12: Demonstrate an awareness of the **ethical and legal standards** as they pertain to horticulture.

GLO 12.1: Apply the **ethical and legal standards** as they pertain to horticulture.

SLO 12D.12.1.1: Demonstrate awareness of legislation governing arborists.

Goal 13: Demonstrate **employability skills** related to horticulture. (GHCP D1) (GHCP D4)

GLO 13.1: Demonstrate **fundamental employability skills**.

SLO 12D.13.1.1: Arrive on time and be prepared for work.

SLO 12D.13.1.2: Meet deadlines.

SLO 12D.13.1.3: Use time effectively.

SLO 12D.13.1.4: Follow written and oral directions.

SLO 12D.13.1.5: Ask questions for clarification.

SLO 12D.13.1.6: Initiate work independently.

SLO 12D.13.1.7: Work effectively without supervision.

SLO 12D.13.1.8: Complete tasks without supervision.

SLO 12D.13.1.9: Fulfill commitments to self and others.

SLO 12D.13.1.10: Perform tasks to a high standard.

SLO 12D.13.10.11: Cooperate with others.

SLO 12D.13.10.12: Act respectfully towards oneself and others.

SLO 12D.13.10.13: Participate in group activities.

SLO 12D.13.10.14: Dress appropriately for the workplace.

SLO 12D.13.10.15: Demonstrate appropriate site etiquette. (GHCP D3)

SLO 12D.13.10.16: Maintain a clean and organized work area. (A3.3)

Goal 14: Demonstrate an understanding of the **evolution and technological progression of, and the emerging trends in** horticulture.

GLO 14.1: Demonstrate an understanding of the **evolution and technological progression of, and the emerging trends in** horticulture.

SLO 12D.14.1.1: Describe the evolution and technological progression of, and the emerging trends in arboriculture.
