

Curriculum Development Stream: Timber Harvesting

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Curriculum Stream Goal: The main goal is to provide students with technical and theoretical knowledge, practical skills, and competencies to undertake work assignments in timber harvesting.

Module Learning Goal: Total of 40 hours(theory, Hours 15; Practical, Hours 25)

The theoretical and practical learning will focus on seven (7) core course modules for timber harvesting curriculum stream, which includes: harvesting safety and health, harvesting practices, timber cruising, harvesting economics, and small motors repairs.

Specific Learning Objective(s): These objectives to understand chainsaw use and safety, practice land sustainability, timber harvesting, and cruising, developing a business plan, use of tools and equipment, maintenance, and servicing. There is also a provision for an estimate of theory and practical instructional hours for each objective as indicated below:

Course Modules	Learning Objectives	Theory/Practical	Period (hours)
1. Harvesting Safety and Health	Students will learn about chainsaw use and safety, including ¹ : <ul style="list-style-type: none">• safety equipment and clothing• safety practices and hazards• sharpening• maintenance• felling	Practical	(1+/4+)
2. Land Protection	Students will learn cultural, technical, and sustainable strategies for protecting land, including ² : <ul style="list-style-type: none">• forest and timber asset protection• resource protection• liability protection	Theory	(4+/1+)
3. Harvesting Practices	Students will learn the concept and practices of harvesting practices, including ³ : <ul style="list-style-type: none">• silviculture• clearcut system• shelterwood system• selection system• putting systems all together	Practical	(2+/4+)

¹ Module 6: Chain Saw Use and Safety. (n.d.). Retrieved July 05, 2020, from <https://novascotia.ca/natr/Education/woodlot/modules/module6/>

² Module 10: Managing Woodlot Finances(A Planning and Investment Guide) (n.d.). Retrieved July 5, 2020, from <https://www.novascotia.ca/natr/education/woodlot/modules/module10A/pdf/module10A.PDF>

³ Module 2: Harvesting Systems. (n.d.). Retrieved July 05, 2020, from <https://novascotia.ca/natr/Education/woodlot/modules/module2/less1.asp>

4. Timber Cruising	Students will learn procedures for timber harvesting practices, including ⁴ : <ul style="list-style-type: none"> • cruise design • cruise quality assurance • field procedures/practices • cruise jurisdiction • stump cruising procedures 	Practical	(2+/4+)
5. Harvesting Economics	Students will learn theory for developing a business plan, including ⁵ : <ul style="list-style-type: none"> • resource protection plan • management plan • record keeping 	Practical	(2+/4+)
6. Harvesting Tools and Equipment	Students will learn to use basic harvesting tool types and equipment ⁶ : <ul style="list-style-type: none"> • choosing equipment • attachment for skidding and forwarding • accessories and other equipment • winching practices • historical, cultural and environmental concerns (Tractors/boats) 	Practical	(2+/4+)
7 Small Motors Repair	Students will learn how to maintain, service, and repair chainsaw ⁷ : <ul style="list-style-type: none"> • routine maintenance and services • chainsaw components • replacement of guide bar • adjusting tension • chainsaw breaks and lubrication 	Practical	(2+/4+)

Evaluation:

- Students will have an exercise at the end of each module to test and reinforce their knowledge and skills gained.

Key Points:

- This module is designed to provide students with technical (practical) information and skills training. For safety timber harvesting safety and health, students will greatly reduce accidents, and in a situation where an accident occurs, students will be better prepared to handle it. Students will be more technically efficient in the use, maintenance, servicing, and repairing of the chainsaw.

⁴ Ministry of Forests Lands and Natural Resource Operations. (2019, August 01). 2017 Timber Cruising Manual. Retrieved July 05, 2020, from <https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-cruising/timber-cruising-manual>

⁵ Module 10: Managing Woodlot Finances(A Planning and Investment Guide) (n.d.). Retrieved July 5, 2020, from <https://www.novascotia.ca/natr/education/woodlot/modules/module10A/pdf/module10A.PDF>

⁶ Module 12: Small Scale Harvesting Equipment. (n.d.). Retrieved July 05, 2020, from <https://www.novascotia.ca/natr/Education/woodlot/modules/module12/pdf/Module12.pdf>

⁷ Government of Canada, C. (2020, July 04). Chainsaws - Maintenance and Service: OSH Answers. Retrieved July 05, 2020, from https://www.ccohs.ca/oshanswers/safety_haz/chainsaws/maintenance.html

- Develop the cultural and technical skills to develop sustainable plans, and be able to do a better job in maintaining and protecting the forest.

Annotated bibliography:

Module 6: Chain Saw Use and Safety. (n.d.). Retrieved July 05, 2020, from

<https://www.nsuarb.novascotia.ca/content/module-6-chain-saw-use-and-safety>

Chain Saw Use and Safety: This reference material provides information on chainsaw use and safety. Students will greatly reduce accidents, and in a situation where an accident occurs, students will be better prepared to handle it. Students will be more technically efficient in the use of the chainsaw. Finally, they will do a better job in maintaining the chainsaw.

Module 2: Harvesting Systems. (n.d.). Retrieved July 05, 2020, from

<https://novascotia.ca/natr/Education/woodlot/modules/module2/less1.asp>

Harvesting Systems: This reference has information on harvesting systems. Students will find harvesting, the first step in Silviculture which is the art and science of growing trees and forests. They will also cover the effects of harvesting on many things in the forest, including recreation potential, wildlife, water quality, and other environmental issues.

Module 12: Small Scale Harvesting Equipment. (n.d.). Retrieved July 05, 2020, from

<https://www.novascotia.ca/natr/Education/woodlot/modules/module12/pdf/Module12.pdf>

Small Scale Harvesting Equipment: This reference provides technical information on the use of tools, equipment, attachment for skidding, and forwarding, including wedges, measuring tapes, hachettes, axes; chainsaw equipment, chainsaw guide bars, chainsaws felling levers, and winches.

Ministry of Forests Lands and Natural Resource Operations. (2019, August 01). 2017 Timber Cruising Manual. Retrieved July 05, 2020, from

<https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-cruising/timber-cruising-manual>

Timber Cruising Manual: This free reference material is compiled by the federal government of Canada. It provides useful information on timber cruising: Cruise design, cruise quality assurance, field procedures/practices, cruise jurisdiction, and stumps cruising procedures.

Module 10: Managing Woodlot Finances(A Planning and Investment Guide) (n.d.). Retrieved July 5, 2020, from

<https://www.novascotia.ca/natr/education/woodlot/modules/module10A/pdf/module10A.PDF>

Economic Planning Guide: This module reference is prepared by the provincial government of Nova Scotia. It provides students with planning and investment guides on timber harvesting economics. It covers chain saw servicing, maintaining, and repairing.

Government of Canada, C. (2020, July 04). Chainsaws - Maintenance and Service: OSH Answers. Retrieved July 05, 2020, from

https://www.ccohs.ca/oshanswers/safety_haz/chainsaws/maintenance.html

Chainsaw Maintenance: This information is provided by the Canadian Centre for Occupational Health and Safety. It provides students will basic steps for safety, and health while maintaining, servicing and repairing chainsaw.

References:

- Kestel, B. R. (2005). *Chainsaw operator's manual: the safe use of chainsaws* (No. Ed. 6). Landlinks Press.
- Module 6: Nova Scotia, Canada. (n.d.). Chain Saw Use and Safety. Retrieved July 05, 2020, from <https://www.nsuarb.novascotia.ca/content/module-6-chain-saw-use-and-safety>
- Module 2: Harvesting Systems. (n.d.). Retrieved July 05, 2020, from <https://novascotia.ca/natr/Education/woodlot/modules/module2/less1.asp>
- Government of Canada, C. (2020, July 04). Chainsaws - Maintenance and Service : OSH Answers. Retrieved July 05, 2020, from https://www.ccohs.ca/oshanswers/safety_haz/chainsaws/maintenance.html
- Module 10: Government of Nova Scotia. (n.d).Woodland Management Home Study Course.(N.d). Managing Woodlot Finances (A Planning and Investment Guide) Retrieved July 5, 2020, from <https://www.novascotia.ca/natr/education/woodlot/modules/module10A/pdf/module10A.PDF>
- Module 12: Small Scale Harvesting Equipment. (n.d.). Retrieved July 05, 2020, from <https://novascotia.ca/natr/education/woodlot/modules/module12/less3.asp>
- Manual falling & bucking. Work Safe BC. Retrieved July 02, 2020, from <https://www.worksafebc.com/en/health-safety/industries/forestry/types/manual-falling-bucking>
- OHS Canada. (n.d). Occupational Health and Safety Regulation: Making logging safer. Retrieved July 02, 2020, from <https://www.ohscanada.com/features/make-logging-safer/>
- Stihl. (n.d.). Chainsaw Safety Manual. Retrieved July 5, 2020, from https://www.stihlusa.com/WebContent/CMSFileLibrary/InstructionManuals/Chainsaw-Safety-Manual_1.pdf
- Ministry of Forests Lands and Natural Resource Operations. (2019, August 01). 2017 Timber Cruising Manual. Retrieved July 05, 2020, from <https://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-cruising/timber-cruising-manual>

