

I. PHILOSOPHY/GOALS:

This course will provide the student with the hands on skills, tools and knowledge necessary to describe how to plan work safety, identify electrical hazards, identify other hazards outside of the electrical environment, use of various knot and hitches in the Utility Arboriculture trade, pruning and removing trees in proximity of electrical conductors, ascending, descending and performing an aerial rescue, rigging principals and hot to manage fire and dangerous goods.

II. STUDENT LEARNING OUTCOMES

Upon completion of this course, the student will display the ability to:

- 1) Plan all work operations safely, in compliance with provincial and municipal legislation and regulations.

Potential Elements of the performance.

- Determine required personal protective equipment (fall Protection/work positioning systems)
- Determine job site limits (safe limits of approach, buried utilities, overhead utilities)

- 2) Describe inspecting, adjusting, maintaining and wearing required personal protective equipment.

Potential Elements of the performance.

- Rubber gloves
- CSA approved (voltage class, pre-use inspection, air test, expiry date, leather covers)
- Flame resistant clothing (correct fit, repair, and cleaning, appropriate ASTM standard)

- 3) Describe methods of eliminating or controlling electrical hazards.

Potential Elements of the performance.

- Barriers to electrical energy (application of utility work protection code, use of hold offs for equipment protection, use of cover up, use of insulated aerial device)

- 4) Describe how to manage all other potential hazards on the work site, including hazards in trees; overhead, on or under the ground; and hazards to the public.

Potential Elements of the performance.

- Mechanical tools and equipment (hydraulic tools)

5) Describe proper use of knots and hitches.

Potential Elements of the performance.

- Rigging knots(9)- bowline tied away, jacked bowline, slippery bowline, stilson hitch, timber hitch, marline hitch, machard tresse, slippery knot, quick hitch

6) Describe the types and purposes of typical pruning processes and the tools and equipment required.

Potential Elements of the performance.

- Considerations required for pruning operations (cycle length, voltage, proximity, customer consideration, species characteristics, tree condition, skirts, and overhang)
- Mechanical tools and equipment (hydraulic tools, pruner, saw, circular saw, chainsaw)
- Chainsaw use aloft (secured to climber, start in branch union, chain brake on, climber secured with secondary fall protection system e.g. work positioning lanyard, smooth controlled cuts, chainsaw shut off between climber's movements)

7) Describe typical tree removal process.

Potential Elements of the performance.

- Felling trees in proximity to energized apparatus (conductor location, pole hardware e.g. guys, primary conductors, service conductors, use of guide ropes, perpendicular felling, skirt hazards, parallel felling)
- Felling assist devices (ropes, tackle blocks, mechanical assists)
- Use of ropes and knots
- Sectionalizing tree

8) Describe methods to prune and remove trees using an aerial device in proximity to energized electrical apparatus.

Potential Elements of the performance.

- Inspect, adjust and wear fall protection equipment according to manufacturer's recommendations.
- Load tools, equipment and materials into bucket according to manufacturer's instructions.

- Operate aerial device control's while accessing desired work location (monitoring limits of approach, monitoring boom position, over roadways, near adjacent trees, poles, electrical conductors, position bucket in optimum positions to reduce body strains while performing work.
- Operate tools aloft. Hand tools- handsaw, fiberglass reinforced plastic (FRP) pole pruner, fiberglass reinforced plastic (FRP) pole saw, rigging ropes, friction saver, slings, whoopee, nylon web, rope.
 - Loppers
 - Secateurs
 - Friction devices
 - Friction savers/cambium saver
 - Connectors (carabiners, clevis)
 - Felling levers
 - Wedges
 - Rigging blocks (multi-sheave block)
 - Rope pullers
 - Gas powered tools (chainsaw)
 - Hydraulic tools (pruner, saw, circular saw, chainsaw, tool disinfection as required)
- Sectional removals from aerial device (conductor location, directional free fall away from energized conductor, conventional rigging, guide ropes, pull ropes, rigging using lowering devices)
- Control movement of cut limbs and trunk sections from aerial device (conductor location, raise/lower limbs using ropes and mechanical advantage, cut limbs so they will not span conductors, control limbs using hinge cuts, lower cut limbs using friction devices, top tree using ropes and rigging equipment, creating false crotch
- Secure aerial device for travel according to manufacturer's instructions
- Aerial device rescue using appropriate methods
- Aerial device evacuation using appropriate methods

9) Describe methods of herbicide application

Potential Elements of the performance.

- Identify differing conditions of right of way in order to select application method (species, brush densities, environmental conditions, terrain, and soil type)
- Application methods (broadcast, stump treatment, basal treatment, soil sterilant, stem foliar)

10) Identify appropriate communication skills to deal effectively with customers and in the workplace

- Speak effectively (give directions or responses, clear enunciation, accurate and concise speech, coherence of message, use of proper language for listener, monitor resultant response or action
- Solve problems on the job
- Function as part of a team

- Develop personal and work related goals
- Work in a responsible manner
- Solve problems occurring on the job
- Function as part of a team/crew
- Develop personal and work-related goals
- Work in a responsible manner

III. POTENTIAL TOPICS TO BE COVERED:

Workplace safety.

Person Protective Equipment.

Eliminating/controlling electrical hazards.

Managing potential hazards on the worksite.

Knots and hitches.

Pruning processes.

Tree removal processes.

Aerial device rescue and escape methods.

Tree removal and pruning using aerial devices in proximity to energized electrical apparatuses.

Herbicide application.

Communication skills

IV. REQUIRED STUDENT RESOURCES

None.

V. EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS, ETC.)

Attendance and Participation 25%

Quizzes/ Assignments 50%

Final Test 25%

The following semester grades will be assigned to students in post secondary courses:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 – 100%	4.00
A	80 – 89%	4.00

B	70 – 79%	3.00
C	60 – 69%	2.00
D	50-59%	1.00
F (Fail)	49% or less	0
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade – limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see Policies & Procedures Manual – Deferred Grades and Make-up).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades.	

VI. SPECIAL NOTES

Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

It is the departmental policy that once the classroom door has been closed, the learning process has begun. Late arrivers will not be granted admission to the room.

Attendance is critical for success in the course.

Cell phone use will not be permitted.

VI. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.