

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



**SAULT  
COLLEGE**

**COURSE OUTLINE**

**COURSE TITLE:** Arborist Theory I  
**CODE NO. :** ARB601 **SEMESTER:** Winter 2012  
**PROGRAM:** Utility Arborist Level One  
**AUTHOR:** Matt Baker  
**DATE:** Dec 2011 **PREVIOUS OUTLINE  
DATED:** New  
**APPROVED:** "B.Punch"

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|  | <b>CHAIR</b> | <b>DATE</b> |
|--|--------------|-------------|
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**TOTAL CREDITS:**

**PREREQUISITE(S):**  
None

**HOURS:** 42 hours

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For additional information, please contact Brian Punch, Chair, Environment and Design  
School of Technology and Natural Resources  
(705) 759-2554, Ext. 2681**

## I. COURSE DESCRIPTION:

This course will teach the learner how to plan work safely, identify electrical hazards, identify other hazards outside of the electrical environment, removing of trees, rigging principals and how to manage fire and dangerous goods.

## II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

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

Potential Elements of the Performance: Interpreting job documents, determining required personal protective equipment, determining job site limits, identifying job sequences, hazards and required barriers to hazards.

2. Describe methods of eliminating or controlling electrical hazards.

Potential Elements of the Performance: Electrical Theory, Ohm's Law, utility hazards, barriers to electrical energy.

3. Describe how to manage all other potential hazards on the work site; including hazards in trees, overhead, on or underground, and hazards to the public.

Potential Elements of the Performance: Environmental hazards, tree hazards, ground hazards, underground hardware, and poison plants.

4. Describe typical tree removal processes using directional felling techniques without rigging equipment.

Potential Elements of the Performance: Identifying the tree to be removed, determining removal methods, establish communication within work groups, factors affecting removal methods, felling zone preparation, danger zone preparation, tree felling, gas powered tools and inspecting worksite.

5. Describe methods of handling/disposing of debris generated on the

job site.

Potential Elements of the Performance: Equipment required, bucking and limbing, sweep technique, handle/dispose of debris, site clean-up, use of chainsaws on the work site.

6. Identify appropriate communication skills to deal effectively with customers and in the workplace.

Potential Elements of the Performance: Tailboard talk, writing effectively, reading effectively, and listening effectively.

7. Describe inspecting, adjusting, maintaining and wearing required personal protective equipment.

Potential Elements of the Performance: Eye protection, head protection, face protection, hearing protection, hand protection, foot protection, leg protection.

8. Describe the selection, use of, and inspection of hand tools and tree maintenance equipment.

Potential Elements of the Performance: Hand tools, pruners, slings, ropes, saws, and rigging equipment.

9. Identify subject wood plant(s) on site.

Potential Elements of the Performance: Features, written description, marking trees, names, and growth characteristics.

10. Describe proper use of knots and hitches.

Potential Elements of the Performance: Rope terminology, rigging knots, fall protection knots and splices.

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

Potential Elements of the Performance: Considerations, identifying cut locations, pruning cuts, pruning methods, and mechanical and equipment, hand tools, gas powered tools, disinfection, and raising/lowering limbs using ropes.

12. Describe typical tree removal processes using rigging equipment.

Potential Elements of the Performance: Method and tools/equipment selection, factors affecting removal method, identifying tree to be

removed, tree condition, fall zone, danger zone, leaning trees, splits or cavities, “hung up” trees and felling cuts.

13. Describe selecting, inspecting and maintenance procedures for fall protection system components.

Potential Elements of the Performance: Climbing rope, climbing harness, position lanyard, slings, pulleys, friction savers and split tails.

14. Describe various methods for ascending and descending trees to access required work position.

Potential Elements of the Performance: Techniques used to ascend/descend, secured body thrust, belay, tree inspection, crown hazards, stem hazards, defects, anchor points (interim and final), open and closed system, reposition and limb walking.

15. Describe aerial tree rescue.

Potential Elements of the Performance: Assessing the emergency, observing the scene, communicating with the victim, EMS and rescue.

16. Describe rigging principles and equipment.

Potential Elements of the Performance: Determine shock-loading, mechanical advantage, rigging equipment materials, tensile strength and safe working load limits.

### III. TOPICS:

1. Job Documents
2. Electrical Hazards
3. Non-Electrical Hazards
4. Tree Removal
5. Job Site Debris
6. Communication
7. Personal Protective Equipment
8. Hand Tools
9. Woody Plants
10. Knots and Hitches
11. Tree Pruning
12. Tree Removal with Rigging Equipment
13. Fall Protection Systems
14. Ascending and Descending Trees
15. Aerial Tree Rescue

## 16. Rigging Principles

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

All class-room based.

**V. EVALUATION PROCESS/GRADING SYSTEM:**

*Attendance 25%*  
*Quizzes/ Assignments 50%*  
*Scenario Based Test 25%*

The following semester grades will be assigned to students:

| <b>Grade</b> | <b><u>Definition</u></b>   | <i>Grade Point Equivalent</i> |
|--------------|--|-------------------------------|
| A+           | 90 – 100%  | 4.00                          |
| A            | 80 – 89%   | 3.00                          |
| B            | 70 - 79%   | 2.00                          |
| C            | 60 - 69%   | 1.00                          |
| D            | 50 – 59%   | 0.00                          |
| F (Fail)     | 49% and below  |                               |
| CR (Credit)  | Credit for diploma requirements has been awarded.  |                               |
| S            | Satisfactory achievement in field /clinical placement or non-graded subject area.  |                               |
| U            | Unsatisfactory achievement in field/clinical placement or non-graded subject area.   |                               |
| X            | A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. |                               |
| NR           | Grade not reported to Registrar's office.  |                               |
| W            | Student has withdrawn from the course without academic penalty.  |                               |

**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.**

**VII. COURSE OUTLINE ADDENDUM:**

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

None