

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



COURSE OUTLINE

COURSE TITLE: Forest Fire Management

CODE NO. : NRT103

SEMESTER: 1 (fall camp)
3 (course)

PROGRAM: Forest Conservation Technician

AUTHOR: John Clement

DATE: Sept 2010 **PREVIOUS OUTLINE DATED:** Aug 2009

APPROVED: "B.Punch"

CHAIR

DATE

TOTAL CREDITS: 3

PREREQUISITE(S): None

HOURS/WEEK 3

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

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Code No.**I. COURSE DESCRIPTION:**

Students will gain practical knowledge of principles of forest fire management, forest fire ecology and forest fire suppression. Forest fire management will include the use of fire intelligence tools (CFFDRS, FWI, FBP'97, etc.) fire use, fire weather, prescribed burning planning procedures and fire strategies. Fire ecology will focus on fire behaviour and the role of fire in the Boreal forest. Students will gain hands on experience with forest fire suppression equipment and ensure it is retrieved to OMNR standards. This will include: hand tools (back pack pump c/w trombones/ axes/ Pulaskis/ shovels); MKIII pumps; fire hose, chainsaws; prospector tents; naphtha/ propane stoves; lamps and tent heater, as well as coolers, water jugs and kitchen utensils.

In addition, suppression tactics, power pump set ups, troubleshooting, hose lays, Swede sawing, chopping, chain sawing, safety, teamwork, preparedness, camping in prospector tents, cooking, heating and lighting with propane and naphtha are performed and evaluated during a three and a half day field camp.

The course will follow the OMNR SP-100 Firefighter training standards, for the most part, with additional readings and other resources provided by the instructor. Students will gain SP-102 certification through this course, which is applicable to forest industry standards. Students may wish to pursue the OMNR SP-100 certification through a private contractor, independent of the college.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Safely operate and retrieve forest fire suppression equipment to the OMNR SP100 standard.

Potential Elements of the Performance:

- Follow equipment inventory control procedures
 - Safely operate, maintain and retrieve forest fire equipment (pumps, hose, hand tools, camp equipment, etc.)
 - Explain the application and limitations of this equipment in various fire management scenarios
 - Sharpen and maintain an axe
 - Roll hose into an melon base on SP100 standards
2. Describe and demonstrate fire use and fire suppression tactics and strategies.

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Potential Elements of the Performance:

- Explain and demonstrate fire line tactics (direct and indirect attack, hose lays, pump set ups, troubleshooting, etc.)
 - Describe the role of aircraft and heavy equipment in fire management
 - Understand the components of the fire line organizational structure
 - Explain fire management operations including preparedness, detection, initial and sustained attack, mop up and retrieval.
 - Demonstrate safe and efficient work habits in a teamwork environment
 - Understand the importance of safety gear, hard hat, steel toe boots, gloves, goggles/ safety glasses, ear plugs, etc.
3. Recognize the role of fire in forested and other ecosystems.

Potential Elements of the Performance:

- Describe basic concepts of fire ecology and fire dependant ecosystems
 - Discuss fire management issues including; fire exclusion, fire use (prescribed burning), the emulation of natural disturbances (forest management) and associated implications for ecosystem health.
4. Use key fire management decision support tools.

Potential Elements of the Performance:

- Categorize fuel types
- Understand and describe the Canadian Forest Fire Danger Rating System
- Recognize factors affecting fire behaviour and use Fire Behaviour Prediction software
- Use Internet resources to find fire intelligence information and data

TOPICS:

1. Fire equipment operation and field maintenance (pumps, sprinkler kits, drip torches, camp equipment, etc).
2. Fire line tactics (direct, indirect attack, hose lays, pump set-ups, fire line organization). Safe work habits, and use of safety equipment. The use of rotary/fixed wing aircraft and heavy equipment in fire management.

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3. Fire management concepts including fire exclusion, fire uses, (prescribed burning), the emulation of natural disturbances (forest management) and associated implications for ecosystem health.
4. Fire operational procedures (preparedness through to suppression through to retrieval)
Fire uses (prescribed burning) and fire management planning.
Internet resources.

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

OMNR SP-100 Training Manual
Other readings (provided by instructor)

V. EVALUATION PROCESS/GRADING SYSTEM:

Mellon Rolling - 10%
Fall Camp (equipment operation, safety, team work, etc.) – 30 %*
Fire Weather Indices assignment – 10%
Mid term Quiz - 10%
Fire Behaviour CD-Rom Assignment – 20%
Final Test – 20%

*In the event of a modified fall camp, this grade may be made up of in lab assignments...

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 below | 0.00 |
| 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. This is used in limited situations with extenuating | |

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circumstances giving a student additional time to complete the requirements for a course (see *Policies & Procedures Manual – Deferred Grades and Make-up*). 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.*

VII. COURSE OUTLINE ADDENDUM:

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