

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE: SPRING FIELD EXERCISES

CODE NO. : NRT128-2 **SEMESTER:** 2

PROGRAM: Forestry Technician, Fish and Wildlife Technician,
Parks and Outdoor Recreation Technician

AUTHOR: Mark Crofts

DATE: FEB 2000 **PREVIOUS OUTLINE DATED:** Jan
1999

APPROVED:

DEAN

DATE

TOTAL CREDITS: 2

PREREQUISITE(S): None

LENGTH OF COURSE: 4 Days

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For additional information, please contact:

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Centre of Specialization for Natural Resources
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COURSE DESCRIPTION:

I.

This four day course introduces a variety of new field skills and provides an opportunity for students to hone skills acquired in the fall and winter semesters. Students will be evaluated on a number of important exercises which are vital for obtaining a career in natural resources. Course topics include: maintenance of selected equipment (small engines), field identification of trees, shrubs and herbaceous plants, field identification of wildlife tracks or sign, a browse survey, field orientation and compassing for accuracy, orienteering, mapping, use of aerial photographs, etc. Safety procedures and safe work habits are emphasized.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

- 1. Perform preventative maintenance and emergency repair of a variety of small engines (ATV, outboard motor, chainsaw, brushsaw, etc.)**

Potential Elements of the Performance:

- Name the characteristics which distinguish a four cycle from a two cycle engine
- Label or name the key components of a small engine
- Repair a chain saw rewind
- Perform basic small engine maintenance procedures
- Diagnose and troubleshoot common engine problems
- Calculate fuel/oil ratios and mix the same
- Demonstrate safe work habits
- Wear appropriate safety gear
- Change cotter pin and spark plug on an outboard motor

This learning outcome will constitute approximately 30% of the course.

- 2. Demonstrate the proper use of the magnetic hand compass and use a pacing factor to measure distance traveled.**

Potential Elements of the Performance:

- Hold compass correctly
- Set appropriate declination on compass
- Set appropriate azimuth on compass
- Apply their pacing factor and measure prescribed distances
- Demonstrate safe work habits
- Wear appropriate safety gear

- 3. Independently compass and chain along at least two different azimuths in a densely forested area, for a total distance not less than 300 meters, to arrive at a designated endpoint with at least 5% accuracy.**

Potential elements of the performance:

- Use compass to locate a landmark on the line of travel
- Travel to the landmark
- Repeat the process until a specified destination is reached within 5% accuracy
- Apply their pacing factor to measure longer prescribed distances
- Demonstrate safe work habits
- Wear appropriate safety gear

These two learning outcomes will constitute approximately 25% of the course.

- 4. Identify tree and shrub species , in their winter condition, and independently identify them with greater than 80% accuracy.**

Potential Elements of the Performance:

For a particular tree or shrub:

- Assess features including buds, twigs, bark, silhouette, and ecological associations
- Apply knowledge of and experience with key features to correctly identify the tree or shrub or herbaceous plant
- Neatly record both common and Latin names (where required) on a standardized field note sheet
- Collect and identify plant specimens from the study area
- Demonstrate safe work habits
- Wear appropriate safety gear

- 5. Complete, as part of a field crew, a compass traverse through a wildlife inhabited forest area and locate and correctly identify wildlife sign and conduct a deer browse survey demonstrating accurate data collection and record keeping techniques.**

Potential Elements of the Performance:

- Use compassing and chaining skills on a predetermined course to locate a sampling plot center
- Working as part of a team, accurately measure distances while travelling through a densely forested area
- Demonstrate accurate data collection and field record keeping skills
- Compile accurate notes of observations
- Use field guides, hand outs and deductive reasoning to locate and identify wildlife sign
- Conduct a deer browse survey, recording browse species and degree of utilization
- Classify woody stems as to degree of browsing
- Close traverse to minimum 10% accuracy
- Collect and identify woody stems
- Demonstrate safe work habits
- Wear appropriate safety gear

These two learning outcomes will constitute approximately 25% of the course.

- 6. Correctly handle, view and interpret aerial photographs and use the photos and an OBM map to travel from one location to another using a magnetic hand compass.**

Potential Elements of the Performance:

- Correctly handle OMNR aerial photographs
- Understand scales of photographs and maps
- Identify major features on a topographic map and cover type changes on aerial photographs
- Identify forest communities, topographical features and drainage patterns on an aerial photograph
- Measure distances and directions on a map and an aerial photograph using a magnetic hand compass

- Demonstrate safe work habits
- Wear appropriate safety gear
- Recognize and use common mapping symbols and conventions
- Record field information legibly on tally sheets

This learning outcome will constitute approximately 25% of the course.

7. Independently conduct a pre-operation check, start, drive and load a four wheel drive All Terrain Vehicle (ATV) safely and efficiently. (Forestry students only)

Potential Elements of the Performance:

- Conduct a circle check of a 4-wheel drive ATV
- Demonstrate safe driving habits while operating various ATV makes and models
- Wear appropriate safety gear
- Secure an ATV to a trailer and hitch a trailer to a vehicle, or; safely load and secure an ATV on a half-ton truck
- Attach an ATV to an ATV trailer, and back both units into a defined space

8. Independently perform basic forest mensuration techniques to a minimum of 10% accuracy. (Parks and Fish and Wildlife students only)

Potential Elements of the Performance:

- Measure tree heights using a Suunto clinometer and a Vertex®
- Measure tree diameters using a diameter tape and calipers
- Use a wedge prism to determine trees in/out of plot
- Use an increment bore and determine tree age
- Demonstrate the proper care and handling of all equipment
- Record field information legibly on tally sheets

These learning outcomes will constitute approximately 10% of the course.

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III. TOPICS:

1. Day #1 – Small Engines (Sault College)
2. Day #2 – Resource Identification (Mark's Bay Conservation Area)
3. Day #3 – Field Orientation, Mapping and Aerial Photography
(Sault College and north of Sault Ste. Marie)
4. Day # 4 – Mensuration Skills/ATV use (Sault College)

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

- Stereoscope
- Clipboard
- Pencil(s)
- Hardhat
- Watch
- Calculator
- Snowshoes (snow dependant)
- Personal safety whistle (Fox 40)
- Lunch and a water bottle (plenty of fluids)
- Day pack to carry all of your equipment
- Knowledge of your pacing factor (write it in your calculator)
- Appropriate dress for the day (rain suit, warm clothes, etc)
- Steel-toed boots
- Field guide(s)

V. EVALUATION PROCESS/GRADING SYSTEM:

Evaluation will be based on the satisfactory completion of **ALL** exercises. Students must obtain an S (Satisfactory) grade on each exercise or task. **All outcomes are mandatory.**

Possible final grades for this course are as follows:

- S – Satisfactory (Satisfactory Completion of all exercises)
- U – Repeat ALL the exercises

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VI. SPECIAL NOTES:

Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1204 or call Extension 493, 717, or 491 so that support services can be arranged for you.

Retention of course outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other post secondary institutions.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in Student Rights and Responsibilities. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course outline amendments:

The Instructor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

VII. PRIOR LEARNING ASSESSMENT:

Students who MUST leave early or who believe that they should be exempted from one or a number of the Outcomes, may do so by Prior Learning Assessment (A fee applies).