

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: FALL CAMP - SECOND YEAR

CODE NO.: FOR221-2 SEMESTER: 3

PROGRAM: FORESTRY TECHNICIAN

AUTHOR: STAN FISCHER

DATE: DECEMBER 1991 PREVIOUS OUTLINE DATED: NEW

APPROVED:   Dec 12/91

DEAN DATE

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COURSE NAME

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TOTAL CREDIT HOURS: 32

PREREQUISITE(S): None

I. PHILOSOPHY/GOALS:

To carry out practical exercises and perfect skills covered in a classroom setting for the following fields of study soils, photogrammetry, silviculture, Ontario Provincial Parks and nursery operations.

II. STUDENT PERFORMANCE OBJECTIVES:

Upon successful completion of this course the student will be able to:

1. Establish a soil pit and describe profile.
2. Conduct a vegetation survey.
3. Make practical use of aerial photographs.
4. Perform a closed traverse and determine area.
5. Have an overview of the Ontario Provincial Parks system.
6. Have a basic understanding of tree nursery operation.

III. TOPICS TO BE COVERED:

1. Soils
2. Silviculture
3. Photogrammetry
4. Traverse
5. Parks Tour
6. Nursery Tour

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IV. LEARNING ACTIVITIES:

WENNEBEGAN JUNIOR RANGER CAMP - CHAPLEAU, ONTARIO -

SOILS:

1. Students will visit glacial features which are relevant to soil deposition processes in order to be able to recognize these features in the field. Features visited will include outwash plain, kame, esker, ground moraine, sand dunes.
2. Students will be able to identify soil horizons and complete a soil horizon description including horizon depth and boundary description, coarse fragment description, soil texture, consistency, colour, description of mottles, moisture regime and drainage class.
3. Students will complete soil pit descriptions in various glacial landform types in order to relate tree species/growth with soil type.
4. Students will be shown several gravel pits in order to identify fragment sizes and quantity present.

General Description:

The soils component of this field camp allows students to view glacial landforms in the field and be able to identify them. An understanding of landforms will enhance their ability to relate why various tree species grow where they do. The underlying deposits are important for recognizing sources of gravel for road building material. Students will establish soil pits (1) metre in depth and describe the soil profile using the NE Region Forest Site Evaluation Field Manual.

Grading:

Students are graded on the last soil pit which is described during the exercise. Accuracy of the soil profile description as well as completeness are evaluated.

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IV. LEARNING ACTIVITIES: (cont'd)

SILVICULTURE:

1. Expose student to Boreal Forest Silviculture including the following:
 - review of aerial seeding
 - Donaren power disc trencher scarification
 - review proposed thinning sites using brush saw
 - view areas, where aerial pesticide spraying has been performed
 - view Areas of Concern
 - examine Jiffy pot and paper pot plantings
 - review alternate harvesting cuts i.e. block or checkerboard cuts
 - view harvesting operation
2. Students will conduct a vegetation survey in order to evaluate the effectiveness of 2, 4-D and VISION for vegetation control.

Description:

A tour of the Wennebegan area will be conducted in order to give students an appreciation of the variety of forestry activities taking place in a Boreal Forest situation. Harvesting operations will be visited and subsequent scarification and planting methods will be discussed. Aerial seeding and various types of container stock will be evaluated in the field. An examination of several areas of concern (A.O.C.) will give students an appreciation of present day environmental concerns and how these affect the management of an area as well as industry responsibilities.

Grading:

Students will be tested on the material covered during the tour of the management unit. A quiz will be given to the students upon return to Wennebegan Junior Ranger Camp.

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IV. LEARNING ACTIVITIES: (cont'd)

PHOTOGRAMMETRY/AERIAL PHOTO INTERPRETATION:

1. Students will gain field experience in the tree identification using aerial photographs.
2. Students will gain field experience in traversing forest land using aerial photographs only.
3. Students will gain practical experience in stereoviewing of OMNR aerial photographs.
4. Students will be able to correlate land cover as seen on an aerial photograph to the actual cover as seen in the bush.
5. Students will gain an insight into the use of aerial photographs for stream crossings.

Description:

Using a stereopair of aerial photographs and a black Stabilo grease pencil, students will outline productive forest stands, non-productive forest land and non-forested land using the conventional Ontario Ministry of Natural Resources symbols. Forest stand typing symbols and explanations will be distributed to each student.

Upon completion of the delineation component, the student will traverse the area (approximately 3.5 km) occupied by the aerial photographs and obtain ground truthing information on the tree species and/or land cover present. This will allow students to compare species types/land cover in other areas of the photograph for species/land cover identification in remote or inaccessible areas.

Grading:

Students will be graded on the accuracy of the divisions between various forest stands and land types (delineating) as well as the symbols/forest species identified for each stand.

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IV. LEARNING ACTIVITIES: (cont'd)

TRAVERSE - COMPASSING AND CHAINING:

1. To allow the student to perfect their compassing and chaining.
2. To allow the student to visual estimate the area of cutover and compare this figure with the true area.
3. The student will perform a closed traverse of a cutover and using conventional computer software map and determine the area of the cutover and closure error. Students must meet a pre-determined closure error.
4. The student will estimate the number of seedlings required to reforest the cutover.

Description:

A two man crew will perform a closed traverse on a cutover using a compass and 50 m chain and acquire distances and directions. This information will be inputted into a Pop top computer software package in order to determine the percentage error in closure as well as the area of the cutover. A pre-determined closure error must be met in order to satisfactorily complete this exercise. The student will then determine the number of trees required to reforest the cutover.

Grading:

Students are graded on their closure error for the closed traverse as well as their estimation of the number of seedlings required to reforest the cutover.

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IV. LEARNING ACTIVITIES: (cont'd)

PARKS TOUR:

A tour and discussion led by staff of the Wakami Lake Provincial Park.

The student will be able to name and define the classifications and objectives of Ontario Provincial parks and recognize how they relate to the park visited and to the overall objectives of Integrated Resource Management within the MNR.

The student will be able to recognize major components of a provincial park management plan and normal operating plan.

NURSERY TOUR:

A tour of a local container nursery will be used to help students complete their learning activity.

1. The student will be able to describe the following operations used in the production of containerized nursery stock:
 1. filling and seeding, 2. growing, 3. hardening, 4. overwintering.
2. The student will identify and describe the following systems and facilities used in forest container nurseries;:
 1. watering, 2. fertilizer application, 3. heating,
 4. cooling, 5. lighting, hardening and overwintering facilities.

V. METHOD OF EVALUATION:

Soils - accuracy of a soil pit profile description
Silviculture - a quiz at tour end
Photogrammetry - a quiz on a stand delineation exercise
Traverse - a quiz on closure error and regeneration estimate
Parks - quiz on tour conclusion
Nursery - quiz based on container nursery tour

VI. SPECIAL NOTES:

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.