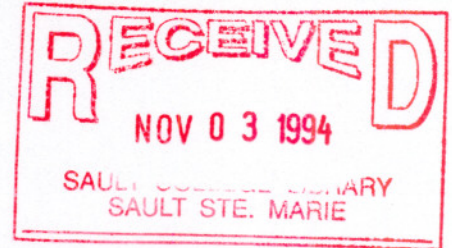


SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE



COURSE TITLE: DESCRIPTIVE DENDROLOGY II

CODE NO.: FOR 107-3 SEMESTER: 2

PROGRAM: FORESTRY/RENEWABLE RESOURCE/FISH & WILDLIFE/
PARKS & OUTDOOR RECREATION/ABORIGINAL RESOURCE
TECHNICIAN PROGRAM

AUTHORS: MARK HARVEY/DON HALL

DATE: NOVEMBER 1994 PREVIOUS OUTLINE DATED: JUNE 1994

APPROVED: *[Signature]*
DEAN

Nov. 01, 1994
DATE

DESCRIPTIVE DENDROLOGY II

FOR107-3

COURSE NAME

CODE NUMBER

TOTAL CREDIT HOURS: 48

PREREQUISITE(S): FOR102-3

I. PHILOSOPHY/GOALS:

Students will gain the skill of winter identification of major tree and shrub species that are representative of the forest regions and urban areas of Ontario. Students will also identify dwarf woody plants and herbs commonly found in Ontario woodlands. The silvics of tree species and the ecology of plant associations will be studied to complement the identification of plant species.

II. STUDENT PERFORMANCE OBJECTIVES:

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

1. Identify, in the winter conditions important deciduous tree and shrub species indigenous to Ontario.
2. Identify, in the winter condition, selected exotic deciduous tree species commonly planted in Ontario.
3. Identify selected herbs in the summer condition that are representative of important forest site types found in Central and Northern Ontario.
4. Recognize key identification features found on the stems, overwintering buds, foliage and flowering structures of herbs, shrubs and trees common in Ontario.
5. List components of applied seed biology.
6. List the important silvical characteristics of major tree and shrub species found in Ontario.
7. Using an ecological approach, discuss the structure and development of important stand types and plant associations found in Ontario.

III. TOPICS TO BE COVERED:

1. Identification of trees and shrubs in the winter condition including seed bearing structures.
2. Identification of herbs in the summer condition.
3. Silvical characteristics of selected tree species.
4. Applied seed biology.
5. Morphological characteristics of stems and flowers used for plant identification purposes.
6. Forest stand development and structure from early to late succession.
7. The site requirements of important plant associations of the Boreal and Great Lakes St. Lawrence Forest Regions.
8. Climatic, geological and biological characteristics of some forest regions of Ontario.
9. Demonstrate a thorough understanding of the silvical characteristics of one northern Ontario tree species by making an oral presentation and answering questions.

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IV. EVALUATION METHODS:

A+ - 95; A - 90; B - 80; C - 70;

Tree, Shrub and Plant identification tests.	60%.
Attendance, Participation and Oral Presentation	20%
Lecture Tests	20%
	100%

Students should plan on identification tests (either in lab or in the field) virtually every week.

If a class is missed for a good reason, it is important that the student promptly discuss the absence with his/her instructor. If the absence is not explained within a reasonable period of time (typically one week), the student will receive a grade of zero for any tests missed, and may lose attendance marks as well.

At the instructor's discretion, a rewrite test may be allowed for students combining participation and good attendance with a final mark in the 60 - 70% range. Rewrites will normally consist of a single test (both identification and written material) covering the whole year's work. The highest grade achievable on a rewrite test is "C".

V. REQUIRED STUDENT RESOURCES:

Hall, Don 1993. Descriptive Dendrology, FOR107 Study Guide, for classroom delivery, School of Sciences & Natural Resources, Sault College, 159pp.

* Hall, Don 1993. Descriptive Dendrology, FOR107 Study Guide, for Distance Education delivery, School of Sciences & Natural Resources, Sault College, 159pp.

Hosie R. C., 1979. Native Trees of Canada, 8th. ed., Can. Forest. Ser. 380 pp.

Peterson & Mckenny, 1968. A Field Guide to Wildflowers, Houghton Mifflin, 420 pp.

* Foster, S. & A. Duke. Peterson Field Guide to Medicinal Plants (Eastern Central). 1990. Houghton Mifflin Publishers. ISBN 0-395-46722-5

* Kavasch, E.B. Guide to Northern Wild Edibles. 1981. Hancock House Publishing Co., Vancouver, B.C. ISBN 0-888-39-090-4

* Soper, J.H. & Heimbürger, M.L. 1985. Shrubs of Ontario. Royal Ontario Museum

(* for Distance Education Students only)

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CODE NUMBER

VI. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY
BOOK SECTION:

Anonymous: Seeds of Woody Plants in the United States, U.S. Dept. of Agriculture Handbook, 450-883 pp.
SD402.U5

Arnold L.N., Martin A.C., Herbert S.Z.: American Wildlife & Plants, General Publishing, 500 pp.
QL756.M27 (One copy is available for library use only, ask at the main desk.)

Baldwin, K.A. and Sims, R.A. 1989. Common Forest Plants in Northwestern Ontario. Forestry Canada - O.M.N.R., NWOFTDU Thunder Bay, Ont.
344pp.

Fowells H.A.: Silvics of Forest Trees of the United States, U.S. Dept. of Agriculture.
SD395.U5

Grimm W.C.: Recognizing Native Shrubs, Stackpole Penn. 1966
QK481.G8

Harlow Harrar & White: Textbook of Dendrology, 6th ed., McGraw Hill, 510 pp.
QK481.H32

Peterson & Mckenny, 1968. A Field Guide to Wildflowers, Houghton Mifflin, 420 pp.

Sims, R.A., Kershaw, H.M, and Wickware, G.M. 1990. The Autecology of Major Tree species in the North Central Region of Ontario. N.W. Ont. For. Tech. Dev. Unit, O.M.N.R., Thunder Bay, Ont. - For. Dan. Sault Ste. Marie, Ont. COFRDA REP. 3302 NWOFTDU TECH. REP. 48 126pp.

Soper, J.H., Heimburger, M.L., 1985. Shrubs of Ontario. Royal Ontario Museum

VII. SPECIAL NOTES:

Safety boots, hard hats and proper winter clothing are required for all outdoor lab work.

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.

LIST OF SMALL SHRUBS AND HERBS - FOR107

WHITE PINE

Large-leaved Aster	<u>Aster macrophyllus</u>
Starflower	<u>Trientalis borealis</u>
Twinflower	<u>Linnaea borealis</u>
Spring-beauty	<u>Claytonia caroliniana</u>
Dwarf Raspberry	<u>Rubus pubescens</u>
Gaywings	<u>Polygala paucifolia</u>
Moccasin Flower	<u>Cypripedium acaule</u>
Poison Ivy	<u>Rhus radicans</u>

WHITE PINE HEMLOCK YELLOW BIRCH

Currants & Gooseberries	<u>Ribes spp.</u>
Goldthread	<u>Coptis groenlandica</u>
Wood Sorrel	<u>Oxalis montana</u>
Sweet-fern	<u>Comptonia peregrina</u>
One-flowered Wintergreen	<u>Moneses uniflora</u>
Dogtooth Violet	<u>Erythronium americanum</u>

MISCELLANEOUS

Ox-eye Daisy	<u>Chrysanthemum leucanthemum</u>
Bog Laurel	<u>Kalmia polifolia</u>
Common Yarrow	<u>Achillea millefolium</u>
Pearly Everlasting	<u>Anaphalis margaritacea</u>
Three-toothed Cinquefoil	<u>Potentilla tridentata</u>
Spreading Dogbane	<u>Apocynum androsaemifolium</u>
Wild Red Raspberry	<u>Rubus idaeus</u>
Fireweed	<u>Epilobium angustifolium</u>
Columbine	<u>Aquilegia canadensis</u>
Orange Hawkweed	<u>Hieracium aurantiacum</u>
Wild Rose	<u>Rose acicularis</u>
Small Cranberry	<u>Vaccinium osycoccos</u>
Three Leafed False Solomon's Seal	<u>Smilacina trifolia</u>

HARDWOODS

False Solomon's seal	<u>Smilacina racemosa</u>
Rose Twisted-stalk	<u>Streptopus roseus</u>
Solomon's seal	<u>Polygonatum pubescens</u>
Indian Cucumber-root	<u>Medeola virginiana</u>
Wild sarsaparilla	<u>Aralia nudicaulis</u>
Fragrant Bedstraw	<u>Galium triflorum</u>
Partridgeberry	<u>Mitchella repens</u>
White Trillium	<u>Trillium grandiflorum</u>
Nodding Trillium	<u>Trillium cernuum</u>
Dutchman's breeches	<u>Dicentra cucullaria</u>
Blue, Purple, White & Yellow Violets	<u>Viola spp.</u>

LIST OF SMALL SHRUBS AND HERBS - FOR107

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SPRUCE-WHITE BIRCH - Aspen

Bunchberry	<u>Cornus canadensis</u>
Wild Lily-of-the-valley	<u>Maianthemum canadense</u>
Canada Anemone	<u>Anemone canadensis</u>
Wood Anemone	<u>Anemone quinquefolia</u>
Shinleaf Pyrola	<u>Pyrola elliptica</u>
One-sided Pyrola	<u>Pyrola secunda</u>
Sweet Coltsfoot	<u>Petasites palmatus</u>
Baneberry	<u>Actaea spp.</u>
Dwarf Rattlesnake Plantain	<u>Goodyera repens</u>
Northern Bluebell	<u>Mertensia paniculata</u>

JACK PINES

Low Sweet Blueberry	<u>Vaccinium angustifolium</u>
Velvet Leaf Blueberry	<u>Vaccinium myrtilloides</u>
Creeping Snowberry	<u>Gaultheria hispidula</u>
Wintergreen	<u>Gaultheria procumbens</u>
Prince's Pine	<u>Chimaphila umbellata</u>
Trailing Arbutus	<u>Epigaea repens</u>
Bearberry	<u>Arctostaphylos uva-ursi</u>
Yellow Clintonia	<u>Clintonia borealis</u>
Cow-Wheat	<u>Melampyrum lineare</u>
Strawberry	<u>Fragaria virginiana</u>

ACERACEAE - THE MAPLE FAMILY

Sugar Maple
Mountain Maple
Striped Maple
Manitoba Maple
Norway Maple

Acer saccharum
~~Acer spicatum~~
Acer pensylvanicum
Acer negundo
Acer platanoides

BETULACEAE - THE BIRCH FAMILY

Yellow Birch
White Birch
Speckled Alder
Green Alder
Hop-Hornbeam
Beaked Hazelnut

Betula alleghaniensis
Betula papyrifera
Alnus rugosa
Alnus viridis
Ostrya virginiana
Corylus cornuta

FAGACEAE - THE BEECH FAMILY

Beech
Bur Oak
Red Oak

Fagus grandifolia
Quercus macrocarpa
Quercus rubra

OLEACEAE - THE OLIVE FAMILY

White Ash
Red Ash
Black Ash

Fraxinus americana
Fraxinus pensylvanica
Fraxinus nigra

TILIACEAE - THE LINDEN FAMILY

Basswood

Tilia americana

ROSACEAE - THE ROSE FAMILY

Black Cherry
Choke Cherry
Pin Cherry
Canada Plum
Apple
Mountain - Ash

Hawthorn
Serviceberry

Prunus serotina
Prunus virginiana
Prunus pensylvanica
Prunus nigra
Malus spp.
Sorbus americana &
Sorbus decora
Crataegus spp.
Amelanchier spp.

SALICACEAE - THE WILLOW OR POPLAR FAMILY

Willow	<u>Salix</u> spp.
Trembling Aspen	<u>Populus</u> <u>tremuloides</u>
Large-toothed Aspen	<u>Populus</u> <u>grandidentata</u>
Balsam Poplar	<u>Populus</u> <u>balsamifera</u>
Eastern Cottonwood	<u>Populus</u> <u>deltoides</u>
Silver Poplar	<u>Populus</u> <u>alba</u>
Lombardy Poplar	<u>Populus</u> <u>nigra</u>
Carolina Poplar	<u>Populus</u> X <u>canadensis</u>

ULMACEAE - THE ELM FAMILY

White Elm	<u>Ulmus</u> <u>americana</u>
Rock Elm	<u>Ulmus</u> <u>thomasii</u>
Slippery Elm	<u>Ulmus</u> <u>rubra</u>

THE VIBURNUMS

Highbush Cranberry	<u>Viburnum</u> <u>trilobum</u>
Wild Raisin	<u>Viburnum</u> <u>casinoides</u>
Nannyberry	<u>Viburnum</u> <u>lentago</u>

THE DOGWOODS

Red Osier	<u>Cornus</u> <u>stolonifera</u>
Alternate-Leaved Dogwood	<u>Cornus</u> <u>alternifolia</u>

OTHER NORTHERN ONTARIO SHRUBS

Labrador Tea	<u>Ledum</u> <u>groenlandicum</u>
Leatherleaf	<u>Chamaedaphne</u> <u>calyculata</u>
Red-berried Elder	<u>Sambucus</u> <u>pubens</u>
Staghorn Sumac	<u>Rhus</u> <u>typhina</u>
Bush Honeysuckle	<u>Diervilla</u> <u>lonicera</u>
Smooth Sumac	<u>Rhus</u> <u>glabra</u>
Mountain Holly	<u>Nemopanthus</u> <u>macronata</u>
White Spiraea	<u>Spiraea</u> <u>alba</u>
Buffalo Berry	<u>Shepherdia</u> <u>canadensis</u>