

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

COURSE OUTLINE

Course Title: DESCRIPTIVE DENDROLOGY II

Code No.: FOR 107-3

Program: FORESTRY

Semester: II

Date: JUNE, 1988

Author: MARK HARVEY

New: \_\_\_\_\_ Revision: X

APPROVED:  Chairperson

Date Aug 24/88

CALENDAR DESCRIPTION

DESCRIPTIVE DENDROLOGY

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Course name

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PHILOSOPHY/GOALS:

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

METHOD OF ASSESSMENT (GRADING METHOD)

Tree & Shrub Identification: 60% of mark  
7 Tests of 10% each

Only a student's best 6 identification tests will be used in the final grade. A student, therefore, may miss one I.D. test without penalty.

Lecture tests 30%

Assignments, Silvics Presentation 10%

100%

GRADING:

A+ = 90 - 100%  
A = 80 - 89%  
B = 70 - 79%  
C = 60 - 69%  
R = less than 60%

TEXTBOOK(S)

Hosie R. C., 1979. Native Trees of Canada, 8th. ed., Can. Forestry Service and Ministry of Supply & Services Canada, Fitzhenry and Whiteside, Don Mills, Ontario, 380 pp.

White J. H., 1980. The Forest Trees of Ontario, 7th ed., M.N.R., 114 pp.

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



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SPECIFIC OBJECTIVES

TECHNICIAN  
COMPETENCY BENCHMARK

Define the terms:	exotic hybridization seed reproduction vegetative reproduction clone graft	2968.06
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Draw and label a longitudinal cross section of a spruce or pine seed and an oak seed.		2968.03
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Explain seed biology under the following headings:	Parts of a seed Seeding Periodicity Seed collection, cleaning & storage Seed storage requirements Dormancy Stratification and Scarification Seed testing	2968.03
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Draw and label seedlings, showing characteristics of epigeous and hypogeous germination.		2968.03
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Describe the major catagories of forests based upon their origins.		2968.02
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Define the following site and silvicultural terminology relating to forest stands:	Regeneration Reforestation Afforestation Stand Ecoregion Ecosystem Moisture regime Nutrient regime Plant hardiness zones	2968.02
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Examine the classification and growth of forest stands in the Boreal and Great Lakes/St. Lawrence Forest regions.		2970.01
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Identify up to 55 deciduous and 25 coniferous tree and shrub species using winter identification features.		2967.04
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Identify up to 60 species of ground vegetation found in major forest communities in Ontario.	2967.04
Identify selected commercially important tree species found in the upper Great Lakes forest region by: silhouette as young seedlings bark seeds	2967.04
List and describe the silvical characteristics of major Eastern Canadian tree species by characteristics such as site requirements, range, common associates, economic, ecological and aesthetic value, reproduction, tolerance, succession and size.	2968.02



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LECTURES

<u>Topic No.</u>	<u>Periods</u>	<u>Topic Description</u>	<u>Reference</u>
1	2	<u>SEEDS</u> -structure -physiology -germination -quality, collection, storage -periodicity	
2	2	<u>SITE</u> -ecoregions -ecosystems -plant associations	
3	2	<u>STANDS</u> -classification -dynamics -growth	
4	9	<u>SILVICS</u> -silvics of major eastern species	

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FOREST COMMUNITIES  
LABS

<u>TOPIC NO.</u>	<u>PERIODS</u>	<u>TOPIC DESCRIPTION</u>	<u>REFERENCE</u>
1	14	<u>TWIGS</u> - identification of approximately 47 species - descriptive sheets to cover twigs, bark, flowers, fruit	
2	2	<u>VIABILITY &amp; GERMINATION</u> - seeds tested and germinated - report on results	
3	10	<u>FOREST PLANTS</u> - identification - communities	
4	4	<u>FIELD TRIPS</u>	
5	2	<u>SEEDLINGS AND SEEDS</u> - identification of major tree species	



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INDEX OF TREES AND SHRUBS

COMMON NAME

GENUS SPECIES

FAMILY

1. Willow	Salix	Salicaceae (Willow or Poplar)
2. Trembling Aspen	Populus tremuloides	
3. Large Toothed Aspen	Populus grandidentata	
4. Balsam Poplar	Populus balsamifera	
5. Silver Poplar	Populus alba	
6. Carolina Poplar	Populus Canadensis	
7. Lombardy Poplar	Populus nigra "Holica"	
8. Eastern Cottonwood	Populus deltoides	
9. White Birch	Betula papyrifera	Betulaceae (Birch family)
10. Yellow Birch	Betula alleghaniensis (lutea)	
11. Hop Hornbeam	Ostrya virginiana	
12. Blue Beech	Carpinus caroliniana	
13. Speckled Alder	Alnus rugosa	
14. Green Alder	Alnus crispa	
15. Beaked Hazelnut	Corylus cornuta	
16. White Elm	Ulmus americana	Ulmaceae (Elm family)
17. Rock Elm	Ulmus thomasii (racemosa)	
18. Slippery Elm	Ulmus rubra	
19. Sugar Maple	Acer saccharum	Aceraceae (Maple family)

Course Name

Course Number

INDEX OF TREES AND SHRUBS CONTINUED

20. Red Maple	Acer rubrum	
21. Mountain Maple	Acer spicatum	
22. Silver Maple	Acer saccharinum	
23. Manitoba Maple	Acer negundo	
24. Striped Maple	Acer pensylvanicum	
25. Beech	Fagus grandifolia	Fagaceae (Beech family)
26. Red Oak	Quercus rubra	
27. White Oak	Quercus alba	
28. Bur Oak	Quercus macrocarpa	
29. Basswood	Tilia americana	Tiliaceae (Linden family)
30. White Ash	Fraxinus americana	Oleaceae (Olive family)
31. Black Ash	Fraxinus nigra	
32. Red Ash	Fraxinus pennsylvanica	
33. Black Walnut	Juglans nigra	Juglandacea (Walnut family)
34. Butternut	Juglans cinerea	
35. Bitternut Hickory	Carya cordiformis	
36. Shagbark Hickory	Carya ovata	
37. Black Locust	Robinia pseudoacacia	Leguminosae (Pea family)
38. Black Cherry	Prunus serotina	Rosaceae (Rose family)
39. Pin Cherry	Prunus pensylvanica	



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INDEX OF TREES AND SHRUBS CONTINUED

40. Choke Cherry	Prunus virginiana	
41. Canada Plum	Prunus nigra	
42. Serviceberry	Amelanchier spp.	
43. Hawthorn	Crataegus spp.	
44. Mountain Ash	Sorbus spp.	
45. Apple	Malus spp.	
46. Sumac	Rhus spp.	Anacardiaceae (Cashew family)
47. Alternate-Leaved Dogwood	Cornus alternifolia	Cornaceae (Dogwood family)
48. Red Osier Dogwood	Cornus stolonifera	
49. Red Elderberry	Sambucus pubens	Caprifoliaceae (Honeysuckle family)
50. Black Elderberry	Sambucus canadensis	
51. Wild Raisin	Viburnum cassinoides	
52. Highbush Cranberry	Viburnum trilobum	
53. Nannyberry	Viburnum lentago	
54. Fly Honeysuckle	Lonicera canadensis	
55. Bush Honeysuckle	Diervilla lonicera	
56. Labrador Tea	Ledum groenlandicum	Ericaceae (Heath family)
57. Eastern White Pine	Pinus strobus	Pinaceae (Pine family)
58. Western White Pine	Pinus monticola	
59. Ponderosa Pine	Pinus ponderosa	

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INDEX OF TREES AND SHRUBS CONTINUED

60. Red Pine	<i>Pinus resinosa</i>	
61. Jack Pine	<i>Pinus banksiana</i>	
62. Lodgepole Pine	<i>Pinus contorta</i>	
63. Scotch (Scots) Pine	<i>Pinus sylvestris</i>	
64. Tamarack (Eastern Larch)	<i>Larix laricina</i>	
65. Western Larch	<i>Larix occidentalis</i>	
66. White Spruce	<i>Picea glauca</i>	
67. Black Spruce	<i>Picea mariana</i>	
68. Red Spruce	<i>Picea rubens</i>	
69. Engelmann Spruce	<i>Picea engelmannii</i>	
70. Sitka Spruce	<i>Picea sitchensis</i>	
71. Norway Spruce	<i>Picea abies</i>	
72. Blue Spruce	<i>Picea pungens</i>	
73. Eastern Hemlock	<i>Tsuga canadensis</i>	
74. Western Hemlock	<i>Tsuga heterophylla</i>	
75. Douglas-Fir	<i>Pseudotsuga menziesii</i>	
76. Balsam Fir	<i>Abies balsamea</i>	
77. Eastern White Cedar	<i>Thuja occidentalis</i>	Cupressaceae (Cedar family)
78. Western Red Cedar	<i>Thuja plicata</i>	
79. Eastern Red Cedar (Juniper)	<i>Juniperus virginiana</i>	
80. Common Juniper	<i>Juniperus communis</i>	
81. Ground Hemlock	<i>Taxus canadensis</i>	Taxaceae (Yew family)



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FOREST COMMUNITIES

1. Smilacina racemosa	False solomon's seal
2. Streptopus roseus	Rose twisted-stalk
3. Polygonatum pubescens	Solomon's-seal
4. Medeola virginiana	Indian cucumber-root
5. Aralia nudicaulis	Wild sarsaparilla
6. Galium triflorum	Threeflower bedstraw
7. Mitchella repens	Partridge-berry
8. Viola pubescens	Downy yellow violet
9. Lonicera canadensis	Fly honeysuckle
10. Caulophyllum thalictroides	Blue-cohosh
11. Trillium glandiflorum	White trillium
12. Trillium cernuum	Nodding trillium
13. Trillium undulatum	Painted trillium
14. Trillium erectum	Red trillium
15. Apocynum androsaemifolium	Spreading dogbane
 <b>SPRUCE-WHITE BIRCH</b>	
1. Campanula rotundifolia	Harebell (Bluebell)
2. Myosotis laxa	Smaller forget-me-not
3. Cornus canadensis	Bunchberry
4. Mitella nuda	Naked miterwort
5. Maianthemum canadense	Wild lily-of-the-valley
6. Viola cucullata	Marsh blue violet

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7. Viola papilionacea	Common blue violet
8. Viola pallens	Northern white violet
9. Anemone canadensis	Canada anemone
10. Anemone quinquefolia	Wood anemone
11. Pyrola elliptica	Skinleaf pyrola
12. Pyrola secunda	One-sided pyrola
13. Allium tricoccum	Wild leek
14. Betula spp.	Birch (Dwarf)
15. Mertensia paniculata	Bluebells

JACK PINE

1. Vaccinium angustifolium	Low-bush blueberry
2. Vaccinium myrtilloides	Velvetleaf blueberry
3. Vaccinium ovalifolium	Blue bilberry
4. Gaultheria hispidula	Creeping snowberry
5. Gaultheria procumbens	Wintergreen
6. Chimaphila umbellata	Prince's pine
7. Epigaea repens	Trailing arbutus
8. Arctostaphylos uva-ursi	Bearberry
9. Clintonia borealis	Yellow clintonia
10. Melampyrum lineare	Cow-wheat
11. Fragaria virginiana	Strawberry



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Rubus spp.

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Blackberry

WHITE PINE

1. Aster macrophyllus
2. Trientalis borealis
3. Linnaea borealis
4. Claytonia caroliniana
5. Rubus pubescens
6. Polygala paucifolia

Large-leaved aster

Starflower

Twinflower

Spring-beauty

Dewberry

Gaywings

Epilobium angustifolium

Firewood

Dicentra cucullaria

Dutchman's-breeches

Eupatorium spp.

Joe-Pye-weed

Actaea spp.

Baneberry

Petasites palmatus

Sweet coltsfoot

WHITE PINE/HEMLOCK/YELLOW BIRCH

1. Ribes galandulosum
2. Ribes triste
3. Ribes americanum
4. Ribes hirtellum
5. Ribes lacustre

Skunk current

Bitter currant

American currant

Bristly gooseberry

Bristly currant

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6. <i>Coptis groenlandica</i>	Goldthread
7. <i>Oxalis montana</i>	Wood sorrel
8. <i>Comtonia peregrina</i>	Sweetfern
9. <i>Diervilla lonicera</i>	Bush-honeysuckle
10. <i>Moneses uniflora</i>	Oneflower-pyrola
11. <i>Erthronium americanum</i>	Dogtooth violet
 <i>Physocarpus opulifolius</i>	 Common ninebark
<i>Aquilegia canadensis</i>	Columbine
<i>Hieracium aurantiacum</i>	Orange hawkweed
<i>Rosa acicularis</i>	Wild rose