

GRANDE PRAIRIE REGIONAL COLLEGE

DEPARTMENT OF SCIENCE AND TECHNOLOGY

Bachelor of Applied Forest Resource Management

DENDROLOGY: FO1200

Transfer status: Under discussion

Pre-requisite: Biology 30

Calendar Description:

Identification, classification and distribution of forest trees of Canada. Identification and classification of shrubs and herbs from different forest communities. Identifications of local species are made in the field during field labs. Delineation of forest regions of the world and their major tree species. Basic biology of trees and shrubs.

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Lectures: Tuesdays and Thursdays 8:30 – 9:50 B305
Lab: Thursdays 14:30 – 17:30 Field - then B305

Texts: Required:
Johnson, Kershaw, MacKinnon & Pojar. 1995. **Plants of the Western Boreal Forest & Aspen Parkland.** Lone Pine Publishing. 392 p.

Optional: (available in the library)
Farrar, J.L. 1995. **Trees in Canada.** Fitzhenry & Whiteside Ltd. & The Canadian Forest Service.
MacKinnon, Pojar & Coupe. 1992. **Plants of Northern British Columbia.** B.C. Ministry of Forests & Lone Pine Publishing.
Beckingham & Archibald. **Field Guide to Ecosites of Northern Alberta.** Special Report #5. Canadian Forest Service, Northwest Region. Northern Forestry Centre. 1996.
Ringius and Sims. 1996. **Indicator Plant Species in Canadian Forests.** Canadian Forest Service.

Website
www.canadian-forests.com
www.fs.fed.us

Course Objectives:

- To be able to identify the common trees/shrubs/forbs growing in the boreal forest and their ecological characteristics.
- To know the major forest regions of North America and their major tree species.
- To understand the basic biology of trees and shrubs: morphology of vegetative parts; reproductive morphology; basic genetics; ecology.

Course Outline:

The major emphasis in the course is on plant identification. We will study the biology of woody plants during the lecture periods. Labs early in the term (before the onset of winter) will consist of field trips in and around Grande Prairie. During these labs we will concentrate on recognition/identification of plant species. Students will be expected to identify the plants from either fresh twigs, leaves, bark, fruits, etc. or from lab mounts. Latin names and families will be emphasized. Students are expected to follow the correct method of writing the Latin names, i.e. underline Genus and species and capitalize the Generic name. Indoor labs, later in the term, will cover tree identification based on wood anatomy and cellular structure.

Lab quizzes will be held each week. These will be chiefly on the plants learnt during the most recent lab, but may also include species learnt during any previous lab. The best 8 (of 9) lab quizzes will count towards the final grade. **There will be no make-up quizzes.**

A mid-term lecture exam will be held on October 26th. The final lecture exam will be held during regularly scheduled college exams.

A mid-term lab exam will be held on October 7th. This exam will be held during the normal lab period. The final lab exam will be held on December 9th, during the regular lab period.

Grading:

The various assignments and exams will be assigned the following weights:

Weekly lab quizzes (best 8 of 9)	30%
Midterm lecture exam	15%
Midterm lab exam	10%
Plant herbarium	10%
Final lecture exam	20%
Final lab exam	15%
Total	100%

TENTATIVE LECTURE SCHEDULE

Date	Topic
Sept. 9	Introduction to Dendrology, course objectives, outline. Taxonomy and Systematics
14	Identifying a plant; dichotomous keys
16	Vegetative morphology
21	" "
23	" "
28	" "
30	Reproductive morphology
Oct 5	" "
Oct 7	" "
12	Open
14	Conifers
19	"
21	"
26	MID-TERM LECTURE EXAM
Nov 2	Genetics
4	"
9	"
Nov 11	"
16	Vegetation zones of North America and the Boreal Forest Zone
18	Deciduous Forests of Eastern North America
23	" "
25	Western North American Forests
30	Hardwoods and Ornamentals
Dec 2	Tree Physiology
7	"
9	Seed and Seedling Physiology FINAL LECTURE EXAM

Plant Herbariums

Students are expected to collect and press plants from the first seven labs. A good specimen consists of a twig, a leaf and possibly flowers or fruit (if still in season). Plants should be labelled and the location of the specimen should also be noted. Audrey will suggest some ways of keeping your collection:

On November 2nd, students will hand in their collections during the lecture period. The herbarium is worth 10% of the final grade. Plants will be used to help next years students and also for exam purposes.

In order to get a good cross section of plants, students will collect one sample of each of the following two species (counting down from the top of each lab list).

Student	Plant #'s
De Montarnal, Adrienne Marie	1, 2
Gauthier, Vita Teresa	3, 4
Hamm, Jesse Arthur	5, 6
Hausler, Dwayne Albert	7, 8
Janzen, Michael Brian	9, 10
Kunyk, Leroy Ian	11, 12
Mielczarek, Adrian	13, 14
Quinn, Rachelle Dawn	1, 2

Lab Quizzes

For the outdoor labs, you will have to identify 10 plants, worth 10 points each. Emphasis will be on the plants learnt in the most recent lab, however plants from any lab could be included.

Point structure - total of 10 points

<u>Genus</u> (4)	<u>species</u> (2)
Family (2)	
common name (2)	

Deductions:

Misspelled word = -1 (per word)

Genus or species not underlined (or in italics) = -1 (per word)

Family or Genus: first letter not capitalized = -1 (per word)

Common name not capitalized (if needed) = -1

Note: Please do not write all words in capital letters.

Lab Schedule

DATE	TOPIC	QUIZ
Sept 9	Reservoir banks - trees and shrubs of river valleys of Alberta	
Sept 16	Canfor Trail - trees and shrubs of the aspen grove section of the boreal forest	#1
23	Wapiti ski trails - trees and shrubs of the aspen grove section of the boreal forest	#2
30	Jubilee Park – hardwoods and ornamentals	#3
Oct 7	Mid-term lab exam	
14	Southside G.P. – hardwoods and ornamentals	#4
21	Woody plants of a black spruce bog	#5
28	Beaverlodge Research Station – Conifers I	#6
Nov 4	Mosses and lichens	#7
11	Indoor lab – identification from wood anatomy	#8
18	Guest speaker	#9
25	Open	
Dec 2	Review	
9	FINAL LAB EXAM	