

SEP 06 2000

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Grande Prairie Regional College  
Department of Science & Technology  
Bachelor of Applied Forest Resource Management  
Course Outline  
Fall 1999

Course: *Silviculture 1* (FO 3130) 3(3-0-3)  
Classroom: B307

Instructor: Dr. Weixing Tan  
Office: E307  
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Transfer Status: Athabasca University SCIE 2xx; Augustana University College BIO 3xx

Prerequisites: FO 2020

Time of Lectures: Monday and Wednesday 13:00 - 14:20  
Time of Lab: Friday 8:30 - 11:20

### Calender Description

Silviculture is the science and art of growing and tending forest crops. As the first part of the silviculture, this course includes: silvics and species selection, introduction to silvicultural systems, pre-harvest ecological assessment, harvesting systems for reforestation, forest regeneration principles and techniques, and container and bareroot nursery practices.

### Textbook

Smith DM et al. 1997. **The Practice of Silviculture: Applied Forest Ecology**. John Wiley & Sons.

### Major References (reserved in the library)

- 1) Lavender DP et al. 1995. **Regenerating British Columbia's Forests**. UBC Press.
- 2) Anonymous. 1996. **Forest site interpretation and silvicultural prescription guide for Alberta**. Alberta Environmental Protection.
- 3) Anonymous. 1996. **Pre-harvest ecological assessment handbook**. Alberta Environmental Protection.
- 4) **Field Guide to Ecosites of Alberta**. UBC Press. (series of 4 publications)
- 5) Anonymous. 1995. **Establishment to free growing guidebook, Prince George Forest Region (Forest practice code of British Columbia)**. BC Environment

### Scientific Journals and Periodicals (available in the Library)

Canadian Journal of Forest Research, Forestry Chronicle, Northern Journal of Applied Forestry, Canadian Silviculture Magazine

### Useful Web Sites

[www.for.gov.ca](http://www.for.gov.ca), [www.canadian-forests.com](http://www.canadian-forests.com), [www.fs.fed.us](http://www.fs.fed.us); [www.forestnet.com](http://www.forestnet.com),  
[www.foresters.org](http://www.foresters.org), [www.forestindustry.com](http://www.forestindustry.com).

### Course Content

The following outlines major topics to be addressed in this course and the required or suggested readings in two major books:

Topic	Readings (chapters)	
	Smith 1997 (required)	Lavender et al. 1995 (suggested)
Introduction – definition, purposes, its role in forestry, philosophy, scope and terminology, review of physiological & ecological principles	1	1 to 6
Stand structure and dynamics	2	5 & 6
Planning		7
Pre-, mid- & post-harvest assessment & ecosite classification in Alberta, site limitations/opportunities	part of 9	8
Harvesting as a tool of silviculture (harvesting or not?)	References will be provided	
Introduction & selection of silvicultural systems, natural versus artificial regenerations	7 & 11	8 and 10
Site preparations	8	11, 12 & 134
Selection of species and provenances, silvics, genetic improvement, use of exotic species	9	6 & 14
Seedling production and stock selection	10	16 & 17
Planting & regeneration surveys	10	18
Vegetation control	6	19

### Requirements

Regular attendance to the lectures and participation in classroom discussion are highly recommended. Presence at each laboratory for this course is compulsory. A passing grade in the lab is required to pass the course. A medical note from your Doctor(s) is required for all excused absences. Mark will be deducted on the overdue lab report(s) at a rate of 10% per day.

**Evaluation**

Quizzes/Assignments	15%
Lab Reports	25%
Midterm Exam	25%
Final Exam	35%
	100%

9 - POINT GRADE	PERCENTAGE EQUIVALENT	DESIGNATION
9	90 - 100	EXCELLENT
8	80 - 89	
7	72 - 79	
6	65 - 71	GOOD
5	57 - 64	
4	50 - 56	PASS
3	45 - 49	
2	26 - 44	FAIL
1	0 - 25	

**Laboratory Schedule** (the date may be changed)

DATE	LAB #	DESCRIPTION
10/09	1	Introduction
17/09 24/09	2	Pre-harvest Assessment (PHA)
01/10 8/10	3	Planting and regen surveys
15/10	Midterm	No Lab
22/10 29/10	4	Site preparations and equipment
5/11	5	Seedling production
12/11 19/11	6	Silvics of major trees in Canada Presentation of Lab 6
26/11	7	Development of silvicultural prescription based on Lab 2
3/12	8	Open session

The detailed lab instruction will be distributed before each lab. Each student is expected to supply the following at each lab: **calculator**, pencils, eraser, some paper, and binder to hold data sheets.