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FORESTRY 347
MULTIPLE RESOURCE SILVICULTURE
 Autumn 2001
Course Outline and Reading Assignments*

Lecture/Lab Schedule

Date **Topic**

Required Reading

Expected to be read prior to class period

Week 1

9/5 W Introduction, course overview and objectives
 9/5-6 lab No Lab during Week 1

Part I. Silvics and forest ecology as a basis for silvicultural planning

Week 2

9/10	M	Silvics of individual trees	Chap. 1, Smith et al.**
9/12	W	Shade tolerance, frost tolerance and other key silvical characteristics	<i>Eres</i> “ Understory tolerance ”
9/12-13	lab	Forest Composition and Structure; Measurements Review/Intro - (Pattee Canyon)	Barnes et al. 1998

Week 3

9/17	M	Forest stand dynamics, Interpreting Diameter/Age distributions	Chap. 2
9/19	W	Regeneration ecology, Disturbances, Silvicultural systems	Chap. 7
9/19-20	lab	Stand dynamics; Forest structure evaluation - (Lubrecht Experimental Forest)	

Week 4

9/24	M	Overview of silvicultural systems	Chap. 11
		Stand Assessment; Site quality estimation; Site index problem set	Chap. 9, pp 235-246.
9/26	W	Stand density concepts; Natural self-thinning (Stem exclusion)	Chap. 3 pp 47-60. & Chap. 4
9/26-27	lab	Silvicultural Inventory; Stand Assessment – (Rattlesnake Nat. Rec. Area)	

Part II. Intermediate Stand Treatments

Week 5

10/1	M	QUIZ 1 (Covering material through 9/26) Application of thinning; Tree and Stand response to thinning	Chap. 4
10/3	W	Commercial thinning methods; Thinning frequency and intensity	Chap. 5
10/3-4	lab	Mark thinning using stocking guides and crop tree release method - (Lubrecht Exp. Forest)	

Week 6

10/8	M	Pre-commercial thinning; Release and Improvement cuts	Chap. 6, p. 131-133, 147-156
10/10	W	Silvicultural systems - Even-aged methods Clearcutting methods and regeneration alternatives	Chap. 12
10/10-11	lab	Silviculture on Montana DNRC Lands; Regen cuts and stocking surveys – (Evaro, MT)	

Part III. Management and regeneration of mature forest stands

Week 7

10/15	M	Nursery production of planting stock & tree planting Tom Corse, Tribal Forestry, Confederated Salish and Kootenai Tribes	Chap. 10
10/17	W	Natural regeneration vs. Planting (artificial regen)	
10/17-18	lab	<u>No Labs this week</u>	

Week 8

10/22	M	Seed tree method; Shelterwood method	Chap. 14
10/24	W	Midterm Exam I (Covering material through 10/22)	
10/24-25	lab	Thinning as a tool of restoration ecology; Ponderosa Pine	

* Course outline and reading assignments may be subject to minor changes as necessary.

** Chapter numbers listed in Required Readings refer to The Practice of Silviculture text (Smith et al.) unless otherwise noted.

****Eres* refers to articles available over the internet on Electronic Reserves at the Mansfield Library (also available as hardcopy on traditional reserves at Mansfield for 2-hour loan).

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Part III. Management and regeneration of mature forest stands (cont.)

Week 9

10/29	M	Silvicultural systems - Uneven-aged methods Single-tree and group selection	Chap. 15 "Role of uneven- aged silv. in Ecosystem Mgmt" , Guldin 1996
10/31	W	Quantitative methods of managing Uneven-aged stands	
10/31-11/1	lab	Uneven-aged management on the Flathead Indian Reservation – (Arlee, MT).	

Week 10

11/5	M	Site preparation - Alternative methods	Chap. 8
11/7	W	Methods and effects of herbicide applications	Chap. 6, pp. 133-146.
11/7-8	lab	Silvicultural Prescriptions; Modeling effects of management options over time	

Week 11

11/12	M	Veterans's Day Holiday	
11/14	W	QUIZ 2 (Covering through 11/7) Introduction to Genetic effects of Silvicultural Systems	"Genetic considerations" Adams et al.
11/14-15		lab To be announced	

Week 12

11/19	M	Genetic effects of Silvicultural Systems and Methods George Howe, Howe Forest Genetics Consulting (formerly USFS geneticist)	"Genetic considerations" Adams et al.
11/21	W	<u>No Class</u> - Thanksgiving vacation	
11/21-22		<u>No Lab</u> - Thanksgiving vacation	

Week 13

Part V. Silviculture for Alternative Objectives

11/26	M	Group selection - Objectives and Methodology	"Applying group selection" Miller et al. 1995
11/28	W	Silvicultural techniques for maintaining biological diversity	Chap. 20
11/28-29	lab	Silvicultural techniques for maintaining biological diversity (cont) (Lab lecture) Strategies at the stand and landscape scales	"Forestry for 21 st Century" Kohm & Franklin

Week 14

12/3	M	Management of Whitebark pine in high elevation ecosystems – guest speaker Cathy Stewart – USFS Ecologist, Lolo National Forest	
12/5	W	Silvicultural control of damaging agents	Chap. 19
12/5-6	lab	Finish Silvicultural Prescriptions	

Week 15

12/10 M The role of Silviculture in Ecosystem Management
12/12 W Catch-up lecture
12/12-13 lab Review and questions?

Finals Week

F 12/19 **Final Exam** 8:00 - 10:00 a.m., Wednesday, Dec. 19

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