

NC State University Department of Forestry and Environmental Resources

**FOR 319 Forest Economics Syllabus
17 November 2005; Summary Version**

Brief Description

Economic approaches for evaluating the production and costs of forest management and timber harvesting activities and the financial returns of long-term investments in timber or other assets. Property and income tax treatment of timber income and effects on investment returns. Demand estimation and timber supply analyses. Linear programming and harvest scheduling.

Course Objectives

At the completion of this course, students will be able to (1) perform the basic financial analyses necessary to estimate the costs of forestry activities; (2) develop physical and cash flow tables necessary to perform financial analyses of short- and long-term forestry investments; (3) use capital budgeting criteria and tools correctly to make recommendations regarding forestry investments; (4) understand forest products demand and calculate the effects of price on demand; (5) compute income tax and property tax effects on forestry investments; (6) evaluate returns for nontimber forest products and the value of nonmarket forest benefits; (7) perform simple linear programming and harvest scheduling analyses; and (7) write clear and succinct reports summarizing economic analyses of forestry investments.

Required Reading/Textbook

Klemperer, W. David. 2003. Forest Resource Economics and Finance. Tech Bookstore. Blacksburg, VA. 551 p.

Selected readings as assigned.

Grading

(1)	Lab Assignments	60%
(2)	Principles and Problems Quiz #1	20%
(3)	Principles and Problems Quiz #2	20%

Class Meetings

Lecture: 11:45 am - 1:00 pm, Tuesday and Thursday, 3018 Biltmore Hall
Lab: 1:30 - 4:15 pm, Thursday, 2104 Biltmore Hall

Instructors and Office Hours

Fred Cabbage, NCSU Forestry; Room 3119 Jordan Hall; 515-7789; fred_cabbage@ncsu.edu

Office Hours: TH 10:00-11:00 or any other time that I am in, or by appointment.

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FOR 319 - Forest Economics

Fall 2005 Schedule; Version#1; Updated 17 August 2005

Note: Readings from Klemperer will be assigned later.

August 18	Introduction and Class Overview	
August 23	Southern and World Timber Investments Overview of Forest Economics; Project Evaluation Cycle	
August 25	Production Functions	
August 25 Lab	Lab Assignment #1: Stand Tables, Yield Tables, Estimation, References	
August 30	Input-Output Relationships, Stand Tables, Yield Tables	
September 1	Input-Output Relationships	
September 1 Lab	Review – Stand Tables and Use, Bronson Bullock	
September 6	Relevant Costs, Profit Maximization	Lab # 1 Due

September 8	Timber Price Reporting Data Lecturer: Robert Bardon	
September 8 Lab	Timber Stand Valuation Lab Assignment #2: Timber Stand Valuation.	
September 13	Multiple Inputs and Outputs, Production Possibilities	
September 15	Cost Theory – Estimating Timber Harvesting Costs	Lab # 2 Due
September 15 Lab	Timber Harvesting Costs Lab Assignment #3: Estimating Harvesting Costs with Spreadsheets	
September 20	Timber Harvesting Costs: Auburn Harvesting Analyzer	
September 22	Timber Harvesting Costs	Lab # 3 Due
September 22 Lab	Lab Assignment #4: AHA Timber Harvesting Cost Estimation	
September 27	Discounted Cash Flow Analyses (DCF)	
September 29	DCF Criteria and Applications: NPV, LEV, IRR, B:C	Lab # 4 Due
September 29 Lab	Lab Assignment #5: Forestry Investment Analyses of Lab #1 & 2 Stands	
October 4	Land Valuation and NC Property Taxes Lecturer: Rick Hamilton Lab Assignment #6: Local Property Tax Rates and Uses	Lab #5 Due
October 6	Fall Break	
October 11	Income Taxes	
October 13	Income Taxes, After Tax Cash Flows	Lab #6 Due
October 13 Lab	Lab Assignment #7: After Tax Returns for Lab #1, 2, 5	
October 18	Midterm Exam	
October 20	No Class - SAF Convention	
October 25	Nontimber Forest Products	Lab #7 Due
October 27	NonMarket Valuation	
October 27 Lab	Lab Assignment #8: Estimating NonTimber Cash Flows	

November 1	Demand	
November 3	Demand Estimation, Elasticities, and Applications	Lab #8 Due
November 3 Lab	Demand and Elasticities: Lab Lab Assignment #9: Demand for lumber	
November 8	Linear Programming: Introduction Lecturer: Bob Abt	
November 10	Linear Programming – Bob Abt	Lab # 9 Due
November 10 Lab	LP and Harvest Scheduling Lecturer: Bob Abt Lab Assignment #10: Linear Program	
November 15	LP and Spreadsheets – Greg Frey	
November 17	LP and Spreadsheets – Greg Frey	
November 17 Lab	LP and Harvest Schedule - Joe Roise	
November 22	Regional Economic Analyses and Impacts	
November 24	Thanksgiving Holiday	
November 29	FIA - Timber Supply Analyses – Applications	Lab # 10 Due
December 1	Review	
December 6	Final Exam; 8-11 am	