

## FO 4113/6113 – FOREST RESOURCE ECONOMICS

### TENTATIVE COURSE SYLLABUS

Contact Information	Course Details
<b>Instructor:</b> Dr. Robert K. Grala <b>Office:</b> 343 Thompson Hall <b>Phone:</b> 325-7039 <b>E-mail:</b> rgrala@cfr.msstate.edu <b>Office Hours:</b> Monday & Wednesday, 1:00-3:00 pm or by appointment	<b>Schedule:</b> Monday, Wednesday & Friday 10:00 am - 10:50 am <b>Location:</b> a208 Thompson Hall (Annex) <b>Credits:</b> 3

**Pre-requisites:** AEC 2713 (Introduction to Agricultural Economics) or equivalent.

#### Required Textbook & Readings:

- Bullard, S.H. and Straka, T.J. 1998. *Basic Concepts in Forest Valuation and Investment Analysis*. Second edition, ISBN: 0-9641291-1-6.
- Additional reading materials will be provided to you in classroom and/or placed on FO 4113/6113 myCourses webpage.

#### Additional Required Items:

- Scientific calculator with power function

#### Recommended Readings:

- Klemperer, W.D. 2003. *Forest Resource Economics and Finance*. ISBN: 0-9740211-0-5.

**Course Description** (Mississippi State University Bulletin): Three hours lecture. Basic principles of forest resource valuation; economics applied to production, conversion, marketing and consumption of forest products and benefits.

**Material Content:** The course will start with introduction to forest resource economics and overview of microeconomics principles. About half of the course will be devoted to financial analysis of forest investments. You will learn how to: analyze forest investments over time, include inflation in your calculations, select between various forest investment alternatives and account for risk and uncertainty. In addition, you will learn basics of timberland investment and forest taxation.

**Course Learning Outcomes:** This course will help you understand how economics can be used to analyze and solve problems related to management and utilization of forest resources. The course will rely on your ability to integrate economics with your knowledge from other forestry and non-forestry courses to predict economic outcomes of various forest activities. By the end of this course you should achieve the following learning outcomes:

1. Understand principles and concepts of forest economics.
2. Be able to critically analyze forestry-related problems and apply your theoretical knowledge

to obtain objective and justifiable solutions.

3. Understand how various economic factors affect viability of forest investments.
4. Be able to use selected software packages to conduct economic and financial analyses.
5. Evaluate forest investments using learned financial tools, provide recommendations, and prepare sound written summaries of your findings.

The tentative course outline presents topics that will be instructed during this semester. Some modifications to the course content might be needed during the semester and they will be announced in a timely manner.

<b>Week</b>	<b>Date(s)</b>	<b>Topic(s)</b>	<b>Required Readings</b>
<b>1</b>	Jan. 7 & 9	<b>Course orientation and introduction to forest economics:</b> features distinguishing forestry from other industries and their implications to economic analysis.	Handouts
<b>2</b>	Jan. 12, 14 & 16	<b>Basic principles of microeconomics:</b> graphic and mathematic representation of demand and supply, market equilibrium, surplus, shortage, factors shifting supply and demand, price and cross-price elasticities of demand and supply.	Handouts
<b>3</b>	<b>Jan. 19</b> Jan. 21 & 23	<b>Holiday – Birthday of Dr. Martin Luther King, Jr.</b> <b>Forest investment financial analysis:</b> concept of interest rate, components of interest rate, simple vs. compound interest (effect of compound interest and time).	Section 1 Handouts
<b>4</b>	Jan. 26, 28 & 30	<b>Forest investment financial analysis:</b> basics of compounding and discounting (calculating future and present values of single sum), rate of return, and discounted cash flow method.	Sections: 2 & 5.5 - 5.7
<b>Home Assignment 1</b>			
<b>5</b>	Feb. 2 & 4	<b>Forest investment financial analysis:</b> present value of perpetual annual and periodic series, present value of terminating annual and periodic series, future value of terminating annual and periodic series, and sinking fund and capital recovery formulas.	Section 3
<b>Feb. 6 EXAM 1</b>			
<b>6</b>	Feb. 9, 11 & 13	<b>Accounting for inflation in financial analysis:</b> definition of inflation, types of inflation, measuring inflation, calculating inflation rate, deflated and inflated values, nominal and real dollar values, and real and nominal rates of return.	Sections: 6.1 & 6.2 Handouts
<b>7</b>	Feb. 16, 18 & 20	<b>Capital budgeting:</b> guiding criteria for accepting or rejecting investment alternatives (Net Present Value, Internal Rate of Return, Benefit/Cost Ratio, Payback Period, Annual Equivalent Value, and Land Expectation Value)	Sections: 4.1 & 4.2 Handouts
<b>Home Assignment 2</b>			

8	Feb. 23, 25 & 27	<b>Capital budgeting:</b> types of investment alternatives (mutually exclusive, independent, divisible, and indivisible), ranking of investment alternatives, potential inconsistency in ranking of alternatives, multiple Internal Rates of Return, and capital rationing.	Handouts Sections: 4.3 - 4.6
9	Mar. 2 & 4	<b>Review on financial analysis:</b> practical exercises	Handouts Section 9
<b>March 6</b>		<b>EXAM 2</b>	
10	Mar. 9, 11 & 13	<b>Using financial software to evaluate forest investments:</b> analyzing forest investment scenarios with various financial software packages.	Section 8 Handouts
11	Mar. 16, 18 & 20	<b>SPRING BREAK</b>	
12	Mar. 23, 25 & 27	<b>Using financial software to evaluate forest investments:</b> continuation of analysis exercises in the computer lab.	Handouts
		<b>Home Assignment 3</b>	
13	Mar. 30 & Apr. 1	<b>Forest management under risk and uncertainty:</b> difference between risk and uncertainty, risk preference, methods of incorporating uncertainty and risk into financial analysis of forest investments, evaluating investment strategies by using risk adjusted discount rates and expected values.	Section 5.4 Handouts
<b>Apr. 3</b>		<b>EXAM 3</b>	
14	Apr. 6 & 8	<b>Forest valuation:</b> calculating value of timberland under different management scenarios, quantifying values of timber alone and bare land, appraisal methods and their applicability to timberland valuation.	Section 7
<b>Apr. 10</b>		<b>Spring Holiday</b>	
15	Apr. 13, 15 & 17	<b>Forest taxation:</b> principles of forest taxation, types of forest taxes, recovery of costs associated with forest production (depletion, deduction, amortization, depreciation, and tax credit), and discussion of capitalization vs. expensing.	Sections: 6.2 & 6.3 Handouts
		<b>Home Assignment 4</b>	
16	Apr. 20, 22 & 24	<b>Review of financial analysis and forest taxation for registered forester exam</b>	Section 9 Handouts
<b>Apr. 30</b>		<b>EXAM 4 - FINAL EXAM 8:00-11:00 a.m.</b>	

**Home Assignments:** Assignments will be distributed on dates indicated in the course outline and will be due next week. You will be provided with instructions necessary to complete each assignment. If the due date coincides with other course projects or if factors beyond your control prevent you from submitting the assignment on time, please contact the instructor to discuss possible extension. A 10% penalty per calendar day will be assessed for all late assignments without

extension. The assignments should be computer-typed, complete, and well organized when submitted. Proper formulas, calculations, results and units need to be shown to qualify for a full credit. Specific grading criteria will be provided for each assignment.

**Assigned Readings:** It is assumed you have read the assigned readings before coming to class. Doing so will help you understand the topic better and will enhance your learning experience. Also, it will help you identify areas particularly interesting or difficult, which in turn will help instructor to facilitate lecture accordingly.

**myCourses Webpage:** This course has myCourses webpage that provides you with an access to various course materials such as class notes and handouts, quizzes and exams (current and from previous years), assignments, grades, calendar, and e-mail. New documents will be added on regular basis. You can access this page at <https://mycourses.msstate.edu>.

**Quizzes:** There will be announced weekly quizzes (day - to be determined by the class). Each quiz will be conducted at the beginning of the class and no late quizzes will be allowed. After the quiz is completed, answers to the questions will be discussed with the class. One lowest quiz score will be dropped during calculation of your final grade.

**Exams:** There will be three period exams followed by the final exam. The period exams will cover topics as outlined in the tentative course outline. The final exam will be comprehensive. There will be a review session before each exam to help you prepare for the exam and clarify difficulties with the material covered. As with home assignments, exams need to show proper formulas, calculations, results and units to qualify for a full credit

**Grading:** Your course grade will depend on your performance in completing various course components. Partial point scores, final point score and final grade will be posted on FO 4113/6113 myCourses webpage and will be based on the following distribution:

Item	Undergraduate Enrollment	Graduate Enrollment
Home assignments (100 points for each assignment)	400	400
Exams 1-4 (100 points for each exam)	400	400
Quizzes (10 points each quiz, 14 quizzes total)	140	140
Class participation	100	100
Term paper & presentation	N/A	150
<b>Total</b>	<b>1,040</b>	<b>1,190</b>

- Additional components such as graded in-class exercises might be added during the semester.

**Grading scale:**

A	90-100%
B	80-89.9%
C	70-79.9%
D	60-69.9%
F	less than 60%

**Graduate Enrollment:** students who enrolled into this course to receive a graduate credit (FO 6113) will be required to prepare and present a term/research paper. The paper length should be between 8 and 10 pages – excluding title page and references. Text should be double-spaced with following margins: 1” – top, bottom, left and right. Font should be Times New Roman, size 12. Citations should follow “A Manual for Writers of Term Papers, Theses and Dissertations” by Kate L. Turabian. Topics should relate to forest resource economics and finance and must be approved by the instructor. Presentation of the paper should be prepared in PowerPoint and last about 10 minutes. In addition, FO 6113 exams will be modified in comparison to FO 4113 to account for graduate enrollment.

***Paper deadlines:***

February 6, 2008 – topic must be submitted to the instructor and approved

March 30, 2008 – paper must be submitted to the instructor

April 20, 2008 - paper will be presented to the class.

**Attendance Policy:** Students are expected to attend all classes. Attendance will be monitored and attendance list will be passed periodically. A make-up quiz or period exam might be given only if absence is due to factors beyond student’s control and if it excused by the instructor. Student will be asked to provide satisfactory evidence to be excused. Missed exam or quiz (if not excused) will result in score of 0. In case of absence, a student is responsible for securing all materials and notes provided during the class.

**Academic Accommodations for Students with Disabilities:** Students who require academic accommodations should contact the Office of Student Support Services, which will process their request. The office will need to be provided with documentation to evaluate the request. Additionally, the student should notify the instructor as needing academic accommodation. Every effort will be made to accommodate the request. Policy and steps for requesting such accommodations are outlined in MSU Academic Operating Policy and Procedure Manual, Section 12.35, available at <http://www.msstate.edu/dept/audit/1235.html> (verified on January 6, 2009)

**Academic Misconduct:** Students are required to follow MSU Honor Code:

**"As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."**

A full description of the code, its violations, and procedures for addressing them are outlined in MSU Academic Operating Policy and Procedure Manual, Section 12.07, which is available at <http://www.msstate.edu/dept/audit/1207.html> (verified on January 6, 2009). Students are urged to familiarize themselves with the full text of above document.

**Professional Expectations for Students in the Forestry Program:** Department of Forestry has adopted policy related to behavior expected from students in classrooms, Thompson Hall building, and during indoor and outdoor laboratories. Handouts specifying these expectations and consequences for inappropriate behavior will be provided to you and discussed during the first class meeting.