

## 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> r.grala@msstate.edu <b>Office Hours:</b> online, via e-mail, and phone <b>Teaching Assistants:</b> Raju Pokharel (rp813@msstate.edu) Ram Dahal (rpd72@msstate.edu)	<b>Schedule:</b> online <b>Credits:</b> 3

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

#### Required Textbook & Readings:

- Bullard, S.H. and Straka, T.J. 2011. *Basic Concepts in Forest Valuation and Investment Analysis*. Second edition, ISBN: 0-9641291-2-4.
- Additional reading materials will be provided to you on FO 4113/6113 webpage.

#### Additional Required Items:

- A scientific calculator with a power function.
- Access to a computer with a high-speed internet connection.
- Internet browser locker Respondus LockDown Browser™ downloadable from Mississippi State University Information Technology Services at <http://www.its.msstate.edu/software/downloads/>.

#### 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, compare viability of forest investments, and account for risk and uncertainty.

**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 evaluate economic and financial outcomes of various forest activities. By the end of this course you should achieve the following learning outcomes:

1. Understand principles and concepts related to 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 financial analyses of forest investments.
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 and materials might be needed during the semester and they will be announced in a timely manner.

Week	Date	Topic	Required Readings
1	Jan. 11	<b>Course orientation and introduction to forest economics:</b> features distinguishing forestry from other industries and their implications to economic analysis. Statistics related to U.S. forest resources.	Handouts
	Jan. 13 & 15	<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
2	Jan. 18	<b>Holiday – Birthday of Dr. Martin Luther King, Jr.</b>	
	Jan. 20 & 22	<b>Forest investment financial analysis:</b> basics of compounding and discounting (calculating future and present values of a single sum), rate of return, and discounted cash flow method.	Sections 2 & 3 (3.1-3.4) Handouts
3	Jan. 25, 27 & 29	<b>Forest investment financial analysis:</b> calculating future and present values of terminating annual and periodic series, and a present value of perpetual annual and periodic series.	Section 3 (3.4-3.22)
4	Feb. 1 & 3	<b>Forest investment financial analysis:</b> calculating payments necessary to accumulate a predetermined amount of money in the future using sinking fund formula or repay a loan using a capital recovery formula.	Section 3 (3.22-3.40)
	<b>Feb. 5</b>	<b>EXAM 1 (available Feb. 1, 12:01 am to Feb. 7, 11.59 pm)</b>	
5	Feb. 8, 10, & 12	<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.	Section 6.1 Handouts

6	Feb. 15, 17 & 19	<b>Capital budgeting:</b> guiding criteria for accepting or rejecting investment alternatives (Net Present Value, Rate of Return, Benefit/Cost Ratio, Payback Period, Equivalent Annual Income, and Land Expectation Value).	Sections: 4.1 & 4.2 Handouts
7	Feb. 22, 24 & 26	<b>Capital budgeting:</b> types of investment alternatives (mutually exclusive, independent, divisible, and indivisible), ranking of investment alternatives, potential inconsistency in ranking of investment alternatives, multiple Rates of Return, and capital rationing.	Handouts Sections: 4.3 - 4.6
8	Feb. 29, Mar. 2 & 4	<b>Using financial software to evaluate forest investments:</b> continuation of financial analysis.	Section 8 Handouts
9	Mar. 7 & 9	<b>Review on financial analysis:</b> practical exercises.	Handouts Section 9
<b>Mar. 11 EXAM 2 (available Mar. 7, 12:01 am to Mar. 13, 11:59 pm)</b>			
10	Mar. 14, 16, & 18	<b>SPRING BREAK</b>	
11	Mar. 21 & 23  Mar. 25	<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 rate (RADR) and expected values.  <b>Holiday</b>	Section 5.4 Handouts
12	Mar. 28 & 30 Apr. 1	<b>Forest valuation:</b> calculating timberland value for even-aged and uneven-aged management scenarios using Land Expectation Value (LEV). Utilizing Net Present Value (NPV) and Net Future Value (NFV) to calculate LEV.	Section 7 (7.1-7.13)
13	Apr. 4, 6 & 8	<b>Forest valuation:</b> calculating standing timber value using liquidation timber value and immature timber value approach.	Section 7 (7.14-7.24)
14	Apr. 11 & 13	<b>Forest valuation:</b> identifying the best rotation age using Land Expectation Value (LEV).	Handouts
<b>Apr. 15 EXAM 3 (available Apr. 11, 12:01 am to Apr. 17, 11:59 pm)</b>			
15	Apr. 18, 20 & 22	<b>Review of financial analysis and practical exercises.</b>	Sections: 6.2 & 6.3 Handouts
16	Apr. 25 & 27	<b>Review of financial analysis and practical exercises.</b>	Section 9 Handouts
<b>May 3 EXAM 4 - FINAL EXAM (available May. 2, 12:01 am to May. 6, 11:59 pm)</b>			

**Assigned Readings:** It is assumed you have read the assigned readings. 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 lectures accordingly.

**Quizzes:** There will be announced weekly quizzes. Each quiz will be based on material covered in the previous week. You will have 15 minutes to complete the quiz and only one attempt. However, it can be taken anytime from Monday 12:01 am to Sunday 11:59 pm Central Standard Time. No late quizzes will be allowed. Your answers might need to show proper formulas, calculations, results, and units to qualify for a full credit. It is a student responsibility to ensure that they are familiar with quiz timing and ensure that it has been successfully submitted via FO 4113/6113 webpage.

**Exams:** There will be three period non-cumulative 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 material posted before each exam to help you prepare for the exam and clarify difficulties with course material. You will have 50 minutes to complete the period exam and three hours to complete the final exam. No late exams will be allowed. The availability (Central Standard Time) of period and final exams is specified in the tentative course syllabus. Your answers might need to show proper formulas, calculations, results, and units to qualify for a full credit.

**Discussion Board:** Students will be required to post one question and one answer to questions posted by other students for each course learning module (each week) using a discussion board link on FO 4113/6113 Web site. Each question will be worth 1 point, whereas an answer two points (total of 45 points). Questions and answers will be graded based on relevance and quality at the end of each week (up to one question and one answer per week). Students will be required to upload screenshots of their questions and answers using an assignment link on FO 4113/6113 Web site.

**Proctor:** This course requires that you are accompanied by a proctor while completing period and final exams. The proctor is not required for other graded course components. Please, contact Ms. Mindy Wolfe, Center for Distance Education, at (662) 325-8545 or via e-mail at [mwolfe@distance.msstate.edu](mailto:mwolfe@distance.msstate.edu) regarding the steps necessary to approve your proctor. The proctor will receive a password that will need to be entered to initiate the exam. Please, make sure that your proctor is approved before the exam and then present with a password during the exam. Failure to initiate the exam due to lack of password or proctor present during your exam will result in a zero score.

**Assignments:** All quizzes, exams, and assignments will be conducted online and will be posted on FO 4113/6113 webpage. They will be accessible via course tool links called Assessments and Assignments. Appropriate links also will be included in learning modules. Students are responsible for familiarizing themselves with how to access, view and successfully submit these graded course components as well as their timing. Please, notice that availability dates and due dates are in Central Standard Time.

**FO 4113/6113 Webpage:** This course has a webpage that provides you with an access to various course materials such as class notes and handouts, quizzes, exams, assignments, grades, calendar, e-mail, and discussion. New documents might be added and students will be notified in advance. You can access this page at <https://mycourses.msstate.edu>.

**Respondus LockDown Browser™:** Quizzes and exams will be conducted utilizing software package Respondus LockDown Browser™. The software is available online from Mississippi State University Information Technology Services at <http://www.its.msstate.edu/software/downloads/> and it needs to be installed on the computer, on which you will be completing quizzes and exams. The software will lock your browser. You will not be allowed to copy, print or view any other websites except FO 4113/6113 webpage, on which you will be completing and submitting your graded course component.

**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 webpage and will be based on the following distribution:

<b>Item</b>	<b>Undergraduate Enrollment</b>	<b>Graduate Enrollment</b>
Exams 1-4 (100 points for each exam)	400	400
Quizzes (10 points each quiz, 14 quizzes total)	150	150
Practice exercises	90	90
Board discussion	45	45
Graduate assignment	N/A	100
Graduate presentation	N/A	50
<b>Total</b>	<b>685</b>	<b>835</b>

- Additional components such as graded practice exercises might be added during the semester.
- If you think that your partial grade posted on FO 4113/6113 webpage is incorrect, you have seven calendar days from the date the grade is posted to notify the instructor and discuss potential solutions. After that time, requests for grade change will not be considered.

**Grading scale:**

A	90-100%
B	80-89.99%
C	70-79.99%
D	60-69.99%
F	less than 60%

**Graduate Assignment and Presentation:** students who enrolled in this course to receive a graduate credit (FO 6113) will be required to complete a graduate assignment. The assignment will have a format of an exam and will involve advanced-level problems related to the material presented in this course. The assignment will be posted on the course Web site and specific assignment instructions will be provided to students in advance. Topics should relate to forest resource economics and finance and must be approved by the instructor. Presentation should be prepared in PowerPoint and last up to 10 minutes.

**Graduate assignment deadline:**

April 24, 2016; 11:59 pm CST – the assignment needs to be completed and submitted via course Web site to receive a credit. The assignment will be available from April 18, 2016; 12:01 am to April 24, 2016; 11:59 pm and time for assignment completion will be three hours.

**Graduate presentation deadlines:**

January 29, 2016 – presentation topic must be submitted to the instructor and approved

April 1, 2016 – presentation must be submitted to the instructor

April 18, 2016 – presentation will be presented to the class (via FO 4113/6113 Web site).

**Attendance Policy:** This is a distance learning course and you have flexibility to study at your pace. However, please notice that this class includes scheduled graded quizzes, exams, and assignments. Therefore, you need to organize your study in a way that you can cover and understand course material before scheduled quiz, exam, and assignment. The suggested timing of material topics is included in the tentative course outline in the course syllabus and FO4113/6113 webpage. A make-up quiz, exam, or assignment might be given only if absence is considered excused by the university. Information on university policy on attendance and list of qualifying absences are provided in MSU Academic Operating Policy and Procedure Manual, Section 12.09, available online at <http://www.msstate.edu/dept/audit/PDF/1209.pdf> (access verified on January 9, 2016). Students will be asked to provide satisfactory evidence to be excused. Missed quiz, exam, or assignment (if not excused) will result in a zero score. If a quiz or assignment is missed due to excused absence, a student will be asked to complete a make-up quiz or assignment. If a period exam is missed due to excused absence, a student will be assigned the same grade as on the final exam. If the final exam is missed due to excused absence, the student will be assigned a grade of I (incomplete). Information on grade I and steps necessary to resolve this grade are presented in MSU Academic Operating Policy and Procedure Manual, Section 12.12, available online at <http://www.msstate.edu/dept/audit/1212.html> (access verified on January 9, 2016).

**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 online <http://www.msstate.edu/dept/audit/1235.html> (access verified on January 9, 2016). Additional guidelines related to documentation are included in MSU Academic Operating Policy and Procedure Manual, Student Affairs OP 91.130, available online at <http://www.msstate.edu/dept/audit/91130.html> (access verified on January 9, 2016).

**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 online at the Student Honor Code Office Web site at <http://www.honorcode.msstate.edu/policy/> (access verified on January 5, 2016). Students are urged to familiarize themselves with the full text of the above

document. Students will be required to sign acceptance of the Honor Code on every quiz, exams, and any assignments in order for them to be graded.

**Title IX:** MSU is committed to complying with Title IX, a federal law that prohibits discrimination, including violence and harassment, based on sex. This means that MSU's educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU's Title IX Coordinator at 325-8124 or by e-mail to [titleix@msstate.edu](mailto:titleix@msstate.edu). Additional resources are available at <http://www.hrm.msstate.edu/aaeeo/titleix/> (access verified on January 9, 2016), or at <http://students.msstate.edu/sexualmisconduct/> (access verified on January 9, 2016).

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