Syllabus: FOR 319 / FOR 595-001 Forest Economics - Fall 2014 - Version 4

NC State University Department of Forestry and Environmental Resources

Instructor and Office Hours

Fred Cubbage, NCSU FER; Room 3118B Jordan Hall; 515-7789; fred_cubbage@ncsu.edu

Office Hours: Tuesday / Thursday 10:00-11:30, 3118B, or by appointment.

TA: Ti’Era Worsley, tdworsle@ncsu.edu

Class Meeting Times

11:45 am - 1:00 pm, Tuesday and Thursday, Jordan Hall 1218

Overview, Goals, and Objectives

At the completion of this course, students will be able to (1) estimate production functions, costs, returns, and profits for forestry operations; (2) develop physical and cash flow tables necessary to perform financial analyses of short- and long-term forestry investments; (3) perform financial and economic analyses necessary to estimate the investment returns of long-term forestry activities; (4) use capital budgeting criteria and tools correctly to make recommendations regarding forestry investments; (5) compute property tax and income tax effects on forestry investments; (6) evaluate returns for nontimber forest products and the value of nonmarket forest benefits; (7) understand forest products demand and calculate the effects of price on demand; and (8) write clear and succinct reports summarizing economic analyses of forestry investments.

Required Readings and Textbook

Readings will be assigned from a book: Forestry Economics, by John E. Wagner, 2011, Routledge Press; ISBN #9780415774765; and from a Coursepack based on lecture notes and on journal articles. One copy of each will be on reserve in the Natural Resources library. Some readings will be available on electronic course reserves. The book and coursepack are required. The coursepack should be brought to class each day.

Final letter grades will be assigned according to the following distribution.

| (1) Homework Assignments (5 @ 5% each) | 25% |
| (2) Reading presentations | 5% |
| (3) Exam #1 | 35% |
| (4) Exam #2 | 35% |
For graduate students, a term paper will be required for 10% of the grade, in place of reading presentations and 5% less of lab assignments (These all still will be required – just a different grading scale). The graduate student term paper will be due Tuesday, November 20.

Grades will be based approximately on a conventional scale with 90 or better being an A; 80 and better a B; 70 or better a C; 60 or better a D; and less than 60 an F. Some adjustment will be made based on the final class distribution.

**Homework assignments** are labs that provide examples of the skills required for the class and the profession, with applications to forest resources

**Reading** presentations are designed for student to briefly summarize the outline, key points, and key concepts of the assigned readings. These should be about 10 minutes in length for each team presenting that day.

**Exams** are tests of each student’s grasp of the material presented in the class, including readings, lectures, and applications.

**Term Papers** are expected to be 8 to 10 page papers covering an application of one of the subjects covered in class applied to a specific topic, such as an investment analysis of bloodroot, nonmarket valuation of carbon, agroforestry, or any other relevant topic. It should include a clear objective, appropriate literature, the application, economic calculations, and conclusions. Preferably it will cover a broad economic analysis, not just a financial analysis of a project, although either approach done well will be sufficient.

**Email – Web Access**

I will use email to distribute class assignments and notices occasionally. You are expected to check your email at least daily. I will be using the email address that you have registered with NCSU. If this isn’t the one you’re likely to check, then please change your registered address.

**Computer Skills**

You must be able to use a word processor and a spreadsheet to prepare papers, analyses, and charts. I’ll discuss some specific techniques, but I will not teach computer basics. I will provide a basic template that you can use for some of the labs; you must find the relevant, accurate data to enter data, modify the relevant cells and formulas, and use that spreadsheet for your applications.
**Make-ups, Late Assignments, and Incompletes**

If an exam is missed as an excused absence, then I will allow a make-up exam, provided the student contacts me as soon as they are able to, even if ill or grieving for a family member. A student must return to class as soon as they recuperate from their illness or other absence.

All homework and lab assignments are due at the beginning of class to the TA on the date and time specified on the handout given out the first day of class.

**Late Assignments will be penalized 10 points for each 24 hour period following the due date and time.** After 5 days late, you may turn in any problem set before the final for a starting grade of a 50; the points deducted from the lab will be taken off of those 50 points. Turn in any late assignments to my office in 3118B Jordan Hall if they are ready before the next class meeting.

**I will not accept assignments by email.** It is time consuming to download and print and difficult to track assignments turned in by email, especially since I have 3 classes with about 120 students this semester, and the files may carry computer viruses. **Any assignments emailed to me will receive a 20 point deduction—so please bring them in person or put in my mailbox in Room 3136 Jordan Hall II.**

Incompletes will only be given when there is a documented hardship/medical condition and prior arrangements have been made with the instructor. All incompletes must be resolved by the end of the next semester or they will be converted to an F.

**Absences and Attendance**

**Attendance is required.** I will grant excused absences in accordance with university policy, normally for documented cases of hardship, illness, participation in religious services or holidays, and participation in University sanctioned activities. Absences that occur when you are expected to make reading presentations will give you a “zero” score for your contribution on that day.

**Attendance will be taken daily.** Students will be allowed up to 3 unexcused absences. Beyond the 3 absences, every two absences will result in a reduction of the final course grade by a level (e.g. B- becomes a C+). Punctuality also is required. Students who arrive more than 10 minutes late to lecture or leave early will be counted as absent. For additional attendance information, please see [http://policies.ncsu.edu/regulation/reg-02-20-03](http://policies.ncsu.edu/regulation/reg-02-20-03)

If you do miss a lecture or lab, you may contact me for general information, but getting the notes from another student is your responsibility. I will not give repeat lectures to individual students during my office hours or appointments.
Academic Integrity

You may work together on homework assignments, but I expect all work you submit to be your own. Any duplication of spreadsheets or lab assignments is not allowed. Violations will be given partial or no credit, depending on the severity of the plagiarism, and you will be sent to the student judicial system. Exams may be closed or open book, and must be completed without any reference materials other than those specifically allowed, such as formula sheets or the textbook. You may not copy from other students or notes. Check the website: http://policies.ncsu.edu/policy/pol-11-35-01 for additional information on University policies on Student Discipline. All exams and homework assignments carry the expectation of the student honor pledge: “I have neither given nor received unauthorized aid on this test or assignment.”

Disabilities

Reasonable accommodations will be made for students with verified disabilities. In order to take advantage of available accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 515-7653. For more information on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation http://policies.ncsu.edu/regulation/reg-02-20-01.

Statement on Extra Expenses

Additional class charges will be required for a textbook (available from BackPackers, Mission Valley), Coursepack to be purchased from Sir Speedy’s, for printing papers, and students must bring their own school supplies. You must have a scientific or business calculator for use on exams and in class.
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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>August 21</td>
<td>Introduction &amp; Class Procedures</td>
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<td>August 26</td>
<td>Forest Economics Overview</td>
<td>Cubbage et al. 2007, Wagner 2011, Chapter 1</td>
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<td>August 28</td>
<td>Stand and Stock Tables and Growth and Yield</td>
<td>Bullock Handouts, 2006</td>
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<td>August 28</td>
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<td><strong>Homework #1 Assignment – Stand and Stock Tables</strong></td>
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<td>September 2</td>
<td>Production Economics and Production Functions</td>
<td>Wagner, 2011, Chapter 2</td>
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<td>September 4</td>
<td>Input-Output Relationships, Cost Functions, Relevant Costs</td>
<td>Wagner, 2011, Chapter 3</td>
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<td>September 9</td>
<td>Timber Price Reporting Data, Conversion Factors, Robert</td>
<td>Wagner 2011, Chapter 4, Bardon Handouts</td>
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<td>September 9</td>
<td>Bardon</td>
<td><strong>Homework #1 Due</strong></td>
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<td>September 9</td>
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<td><strong>Homework #2 Assignment – Timber Stand Valuation</strong></td>
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<td>September 11</td>
<td>Profits, Multiple Inputs, and Multiple Products</td>
<td>Wagner 2011, Chapter 5</td>
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<td>September 16</td>
<td>Discounted Cash Flow Analysis</td>
<td>Wagner 2011, Chapter 8, Cubbage et al. 2012, p 1-21</td>
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<td>September 18</td>
<td>Services</td>
<td><strong>Homework #2 Due</strong></td>
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<td>September 18</td>
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<td>**Homework #3: Cash Flow Analyses &amp; Capital Budgeting with</td>
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<td>September 18</td>
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<td>Spreadsheets</td>
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<td>September 23</td>
<td>Timber Investment Returns in the Americas</td>
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<td>September 25</td>
<td>Capital Budgeting and Optimal Rotation</td>
<td>Wagner 2011, Chapter 9</td>
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<td>September 30</td>
<td>Discount Rates, Risk, and Inflation</td>
<td>Wagner 2011, Chapter 10, Hogaboam and Shook 2004</td>
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<td>October 2</td>
<td>Review for Exam #1</td>
<td><strong>Homework #3 Due</strong></td>
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<td>October 7</td>
<td>Exam #1</td>
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<td>October 9</td>
<td>Fall Break</td>
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October 14  Timber Operation Costs: Planting, Harvesting, Roads  
Readings: Werblow and Cubbage 1986, Wagner, Chapter 3

**Homework #4: Estimating Timber Harvesting Costs with Spreadsheets and the Auburn Harvesting Analyzer**

October 16  Timber Operation Costs  
Readings: Cubbage and Duncan 2001, Aust et al. 2005

October 21  Appraisal Methods  
Readings: Forest Landowner Article, Powerpoint from Maine

October 23  Regional Economic Analysis – Karen Abt  
Readings: Tilley and Munn 2007  
**Homework #4 Due**

October 28  Field Trip – Hofmann Forest - Optional

October 30  FIA Timber Supply Analyses and the SRTS Model– Bob Abt  

November 4  NonMarket Valuation - Evan Mercer  
Readings: Cubbage et al. 2012, p. 20-27; Wagner, Chapter 10

November 6  Income Taxes  
**Homework Assignment # 5 Timber Income Taxes**  
Readings: Wagner 2011, Chapter 11, IRS Form 1040  
vander Hoeven and Megalos 2009

November 11  Income Taxes for Timber (John Greene)  
Readings: Greene et al. 2013

November 13  Property Taxes   (Mark Megalos)  
Readings: Hamilton and Bardon 2007

November 18  Demand  
**Homework #5 Due**  
Readings: Wagner Chapter 7

November 20  Supply and Demand Interactions – Comparative Statics

November 25  TBD

November 27  Thanksgiving

December 2  Review

December 11  Final Exam  8:00 am – 11:00 am
Readings: Note: Reprinted in the class course pack with permission of:
2) All Forest Products Journal: Reprinted with permission of the Forest Products Society, Madison, Wisconsin.
3) All Forest Landowner: Reprinted with permission of Forest Landowners Association, Atlanta
4) All others: government documents—USDA Forest Service, NC Cooperative Extension Service, Forestry Trade Associations, or others—or manuscripts by Fred Cubbage and others. Any not in the Coursepack are available on the electronic library course reserves for this class.

Citations:

- Cubbage, Frederick, Patricio Mac Donagh, José Sawinski Júnior, Rafael Rubilar, Pablo Donoso, Arnaldo Ferreira, Vítor Hoeflich, Virginia Morales Olmos, Gustavo Ferreira, Gustavo Balmelli, Jacek Siry, Mirta Noemi Báez, and José Alvarez.  2007. Timber investment returns for selected plantation and native forests in South America and the Southern United States. New Forests 33(3):237-255.

FOR 319 / 595-001 Syllabus 2014 V4; 24 August 2014; Fred Cubbage, NC State University

Detailed Required Syllabus Elements – Noted if Different Than Above

Source: http://policies.ncsu.edu/regulation/reg-02-20-07

A course syllabus must include the information listed below. The language enclosed within quotes in sections 2.15, 2.17 and, if applicable, section 2.16, should be used without changes...

2.1. Instructor's name, office address, telephone number, e-mail address, regularly scheduled class meeting times, and office hours for out-of-class consultation. The course prefix, number, title, credit hours, and semester should be listed. See above.

2.2. Course prerequisites, co-requisites or statement on enrollment restrictions. If none, state “none”. None.

2.3. Designation of course as fulfilling a General Education Program (GEP). If none, state “none”. GEP information in the syllabus should include the GEP category or categories (such as Natural Sciences or Humanities), and whether the course satisfies a GEP co-requisite(s). None.

2.4. Student learning outcomes for the course. Student learning outcomes in different sections of the same course should not differ significantly. Include the learning outcomes related to GEP objectives, if applicable. GEP objectives can be found at http://www.ncsu.edu/uap/academic-standards/gep/gepcategories.html. See objectives above.

2.5. Student expenses. See above.

2.5.1 List all required textbook(s) and other instructional material (ex: project supplies, laptop) and the cost of each. For each required textbook, include the author, title, and date or edition. See above.

2.5.2 Statement on required expenses (e.g., lane rental at the bowling alley, museum admission fee, field trip costs, liability insurance), if applicable. No added expenses.

2.6. Course overview including at least the catalog description. See above.

2.7. Course structure (such as group activities, lectures, discussion, labs, field trips, studio, etc.). Explain how the course will operate. See above.

2.8. Weekly course schedule including the following (Note in the syllabus that the course schedule is subject to change with appropriate notification to students): See above.

2.8.1 List of topics and approximate time allocated to each major topic.
2.8.2 Projected schedule of required readings, assignments, quizzes, and tests.
2.8.3 Required field trips and other out-of-class activities, if any.
2.8.4 Laboratory, studio, or problem session topics, if any.
2.9 Statement on transportation, if applicable. **One optional field trip is planned; personal transportation may be required depending on bus availability.** Students must be informed whenever they must provide their own transportation to a field trip or internship site.

2.10 Statement on safety and risk assumption in courses requiring a laboratory, physical activity, field trips, studios and other special activities. (Consult with your department on appropriate wording.) Safety issues must be part of the course schedule at the first opportunity. **Any safety requirements will be discussed at the field site.**

2.11 Detailed explanation of how grades are determined including: **See above.**

2.11.1 The relative value of the various evaluation components of the course, (the portion of the grade that derives from quizzes, tests, final exam, projects, attendance, participation, etc.) and the specific expectation for each component. When attendance and/or participation are graded, the requirements for earning full value must be explained.

2.11.2 The conversion system from numerical to letter grading, if applicable. The **University’s regulation on grades and grade point average (NCSU REG 02.50.03).**

2.12 Late Assignments

Instructor’s policy on late assignments, including the impact of late assignments on the grading of the assignment and the course. **See above.**

2.13. Attendance/Absence Policy: Refer to **Attendance Regulation (NCSU REG02.20.03).** **See above.**

2.13.1 The instructor’s attendance policy, including procedures for submitting excuses and for scheduling makeup work when the excuses are accepted, must be explained.

Note: Excuses for unanticipated absences must be reported to the instructor no more than one week after the return to class.

2.13.2 Instructors may use reasonable academic penalties commensurate with the importance of the work missed because of unexcused absences. Penalties associated with the number of absences in a course must be explicitly explained.

2.13.3 The instructor shall determine the acceptable number of excused absences in his/her course. A reasonable number of anticipated University excused absences as defined per the **University’s Attendance Regulation (NCSU REG02.20.03)** shall be accepted.

2.14 Academic Integrity statement **See above.**

List the instructor’s expectations concerning academic integrity in the completion of tests, assignments, and course requirements. Include reference to the **Code of Student Conduct policy (NCSU POL11.35.1)** and Pack Pledge.

2.15. Statement for students with disabilities **See above and below as well.**

“Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Services Office at Suite 2221, Student Health Center, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the **Academic Accommodations for Students with Disabilities Regulation (REG02.20.01)”**

2.16 Electronic Course Components **None, except library course reserves required.**

2.16.1 List electronically hosted course components, if any. Instructors should identify any components that may present privacy, copyright, or accessibility issues for the student so that these issues can be addressed during the course drop/add period.
2.16.2 Instructors are not responsible for ensuring privacy or accessibility of electronic materials that are not required components of the course (e.g., links to supplemental information that is not part of the required reading list). However, instructors should judiciously consider privacy, copyright, and accessibility of supplemental links provided to students and warn them of any known issues or concerns in this regard. See Online Course Material Host Requirements (NCSU REG08.00.01)

2.16.3 One of the following statements is required.
2.16.3.1 For use in courses with online exchanges among students and the instructor, but NOT persons outside the course (e.g., wrapped):

“Students may be required to disclose personally identifiable information to other students in the course, via electronic tools like email or web-postings, where relevant to the course. Examples include online discussions of class topics, and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.”

**Note:** Exchange of emails may be required for preparing to present class reading materials.

2.16.3.2 For use in courses where student information may be accessible to persons beyond the instructor and students in the course (e.g., not wrapped): **Note:** This is not applicable.

“This course may involve electronic sharing or posting of personally identifiable student work or other information with persons not taking or administering the course. Students will be asked to sign a consent allowing disclosure of their personally identifiable work. No student is required to sign the consent as a condition of taking the course. If a student does not want to sign the consent, he or she has the right to ask the instructor for an alternative, private means of completing the coursework.”

2.17 N.C. State Polices, Regulations, and Rules (PRR): “Students are responsible for reviewing the NC State University PRR’s located at [http://oucc.ncsu.edu/course-rights-and-responsibilities](http://oucc.ncsu.edu/course-rights-and-responsibilities) which pertains to their course rights and responsibilities.”

**Note:** So note; these are your rights and responsibilities.