

University of California, Berkeley
Resource Economics & Management
ESPM 102C
Spring 2015

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 ESPM
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Topics ESPM 102C is an introduction to natural resource economics and management, with special emphasis on forest, wildland resources, urban-rural interface, and economic instruments for conservation. Course topics include: natural resource markets, non-market valuation of environmental costs and benefits, investment & decision analysis, taxation of land, regional economics, and management models. Specific topics covered by the class are climate change, recreation, forest economics, and water and wildlife management. Particular methods of analysis used in the class are Linear Programming (LP), Linear Regression, Cost-Benefit analysis (CB) and input-output (I-O) among others.

Prerequisites Pre-calculus and one introductory course in microeconomics, preferably EEP 1/Econ 3.

Schedule

	<u>Day/date</u>	<u>Time</u>	<u>Room</u>
Lecture	MW	1:00-2:30 p.m.	132 Mulford
Laboratory 101	M	10-12	124 Mulford
Laboratory 102	T	10-12	124 Mulford
Final examination (Group 5)	Tuesday, May 12-2014	8-11 a.m.	TBA

Grading Grades for the course will be determined by performance on examinations and laboratory exercises. Two midterm examinations will be given during regular lecture periods on Wed March, 11 and Wed. April 22. A comprehensive final examination will be given on Tuesday May 12, from 8:00 to 11:00 A.M.

Laboratory exercises must be submitted to the GSI at the beginning of the next laboratory session.

Please note: Two essays need to be written during the semester. Each essay cannot be longer than three pages (and another page for references) and should deal with a topic related to the class and related to a reading, a newspaper article or any other contemporary topic related to the class.

Each of those essays counts as a lab assignment. You can turn in the essays at any point in time following this schedule:

First essay: On or before 3/23/14

Second essay: On or before 4/20/2014

No credit will be given for late work. Course grades will be determined as follows:

Midterms, 50%;

Final 20%

Lab work 30%.

Topics and Readings

A reader is required for the class. The readings below are included in the reader and will be covered during the duration of the semester. Students are expected to have completed the readings for a topic before the lecture on that topic. The reader is available at:

**Copy Central in downtown Berkeley
48 Shattuck Square, Berkeley CA 94704.**

Ph.: (510)8487034

Additional readings may be distributed and they become part of the course.

Microeconomics review:

Leeds, Michael A.; von Allmen, Peter, and Schiming, Richard C. "Market Failure: Public Goods and Externalities" in "Economics". Pearson Addison Wesley, pp. 435-453. 2006.

Perloff, Jeffrey M. "Consumer Choice" in "Microeconomics". Pearson, Addison Wesley, pp. 74-102. 2007.

Investment Analysis

Buongiorno, J. and J.K. Gilliss. 2003. Decision methods for forest resource management. Academic Press, San Diego. 439 p. (Read Chapter 18, "Analysis of forest resource investments")

Bettinger, Pete; Boston, Kevin; Siry, Jacek P.; Grebner, Donald L. "Management of Forests and Other Natural Resources" in "Forest Management and Planning". Elsevier, pp. 2-13.
2009

Klemperer, W.D. 1996. Forest resource economics and finance. McGraw-Hill, New York. 551 pages. (Chapter 4, "The forest as capital", pages 101-133)

Forestry Investments

Klemperer, W.D. 1996. Forest resource economics and finance. McGraw-Hill, New York. 551 pages. (Read Chapter 7, "Economics of forestland use and even-aged rotations", pages 202-238)

Klemperer, W.D. 1996. Forest resource economics and finance. McGraw-Hill, New York. 551 pages. (Read Chapter 8, "Optimal timber stocking", pages 239-265)

Taxation

Klemperer, W.D. 1996. Forest resource economics and finance. McGraw-Hill, New York. 551 pages. (Read Chapter 9, "Forest taxation", pages 266-301)

Valuation

Davis, L.S. et al. 2001. Forest Management. McGraw-Hill, New York. 804 pages. (Read Chapter 8, "Principles and applications in forest valuation", pages 395-462)

Markets-Forecasting: Timber Markets

Klemperer, W.D. 1996. Forest resource economics and finance. McGraw-Hill, New York. 551 pages. (Read Chapter 12, "Timber supply and demand", pages 362-394)

Econometric Models

Buongiorno, J. and J.K. Gilless. 2003. Decision methods for forest resource management. Academic Press, San Diego. 439 p. (Read Chapter 19, "Econometric analysis and forecasting of forest product markets")

Regional Economics

Loomis, J.B. 2002. Integrated Public Lands Management. Columbia, New York. 474 pages. (Read Chapter 7, "Regional economic analysis and input-output models", pages 171-191)

Bureau of Business and Economic Research. "The Regional Economy".

Forest management models

Buongiorno, J. and J.K. Gilless. 2003. Decision methods for forest resource management. Academic Press, San Diego. 439 p. (Read Chapter 1, "Introduction", Chapter 2, "Principles of linear programming: Formulations", Chapter 3, "Principles of linear programming: Solutions", Chapter 4 "Even-aged management: A first model")

Biodiversity/Protected Areas

United Nations Environmental Programme. "Global Biodiversity Assessment". Chapter 12. 2001.

Recreation

Douglas, R.W. 1993. Forest Recreation. Waveland, Prospect Heights. 373 pages. (Read Chapter 5, "Financing forest recreation", pages 99-114)

Emerton, Lucy; Bishop, Joshua and Thomas, Lee. "Sustainable Financing of Protected Areas: Global Review of Challenges and Options." 2006, pp. 97. Read Chapter 7.

Multiple Use

Loomis, J.B. 2002. Integrated Public Lands Management. Columbia, New York. 474 pages. (Read Chapter 8, "Principles and applications of multiple-use management", pages 192-220)

Water

Young, Robert. "The Economic Value of Water: Concepts and Methods". Resources for the Future. Washington D.C. 357 pages. (Read Chapters 1 and 2).

Economic Valuation

Stevens, Thomas. "Can Stated Preference Valuations Help Improve Environmental Decision Making?" Choices. 2005. pp. 189-193

Shaw, Douglas W. "The road less traveled: Revealed Preferences and using the Travel Cost Method to value environmental changes" Choices. 3rd Quarter. 2005.

Hanley, Nick; Shogren, Jason F. and White, Ben. "Valuing the environment and Natural Resources" in "Introduction to Environmental Economics". Oxford University Press, pp. 34-67. 2001.