

FOREST MANAGEMENT AND CERTIFICATION

Program

Topic 1. Introduction to forest resources management and economics

- The specificity of forest resources management and economics. Basic elements and concepts forest resources management and certification.
- Types of management planning problems.

Topic 2. Economics and valuation. The market and the allocation of forest resources.

- The market and the allocation of forest resources. Market imperfections and externalities: the case of forest resources. First approach to the valuation of forest goods and services: the product, the tree, the stand and the forest. Time and interest. The arithmetic of interest and practical assessment of forest land. Compensation and damage assessment.

Topic 3. Stand-level management, conservation and protection planning.

- Fundamentals of decision-making. Decision criteria. The cases of pure, even-aged and mixed and uneven-aged stands.

Topic 4. Forest management certification

- Concept of quality. Quality Certification. Certification of Sustainable Forest Management Systems. Product Certification. Life Cycle Analysis (LCA). Certification process. Certification programs (or systems). Comparative analysis. Procedures for certification: individual, group and regional (examples). Norma Portuguesa NP 4406: 2003. Certification of forest products. Certification to practice "good management" and "capacity building".

Objectives of this course

- (1) To know basic elements and concepts of forest management planning and certification,
- (2) to understand how economic principles and decision analysis integrate forest management, conservation and protection planning,
- (3) to know techniques to support forest management and certification and
- (4) to get familiar with the management planning and the certification context – management problems in areas of non-industrial private property, in industrial forest areas, in public forest areas or community forests and in conservation and protection areas, problems of group and regional certification.

Course Structure

A. Oral presentation of each topic and of key concepts.

B. Research and discussion under teacher guidance. Students should use the library and the internet to collect information and prepare the participation in classes.

Tentative schedule:

Week	Days	Topic
1	12 and 14 Sept	1
2	19 and 21 Sept	1 and 2
3	26 and 28 Sept	2
4	3 Oct	2
5	10 and 12 Oct	2 and Test1
6	17 and 19 Oct	3
7	24 and 26 Oct	3
8	31 Oct and 2 Nov	3
9	7 and 9 Nov	3
10	14 and 16 Nov	3
11	21 and 23 Nov	3
12	28 and 30 Nov	4
13	5 and 7 Dec	4 and Test 2
14	12 and 14 Dec	Revision and Test 3

Evaluation

The final grade will be determined as follows:

- Test 1: 35%
- Test 2: 15%
- Test 3: 50%

Or if a minimum grade = 10 is not met in Test 1, Test 2 or Test 3:

- Final exam: 100%

The evaluation schedule is as follows:

- Test 1: 12/10
- Test 2: 7/12
- Test 3: 14/12
- Final Exam: date to be defined.

Bibliography

Topic 1

Bettinger, P., K. Boston, J. Siry and D. Grebner. 2009. *Forest management and Planning*. Ed. 1. Academic Press, Burlington. pp. 1-13, 67-74.

Topic 2

Bettinger, P., K. Boston, J. Siry and D. Grebner. 2009. *Forest management and Planning*. Ed. 1. Academic Press, Burlington. pp. 15-16, 29-56

Borges, J. G., L. Diaz-Balteiro, M. E. McDill and L. C. E. Rodriguez (Eds) 2014 *The management of industrial forest plantations. Theoretical foundations and applications*. Springer, Managing Forest Ecosystems Vol 33, pp. 121-154, 166-170.

Topic 3

Borges, J. G., L. Diaz-Balteiro, M. E. McDill and L. C. E. Rodriguez (Eds) 2014 *The management of industrial forest plantations. Theoretical foundations and applications*. Springer, Managing Forest Ecosystems Vol 33, pp. 155-165.

Bettinger, P., K. Boston, J. Siry and D. Grebner. 2009. *Forest management and Planning*. Ed. 1. Academic Press, Burlington. pp. 103-124, 185-198.

Topic 4

Higman, S., Mayers J., Bass S., Judd N. and Nussbaum R. 2005. *The Sustainable Forestry Handbook* (2nd ed.) The Earthscan Forestry Library, London.

Nussbaum R. and Simula M. (2005) *The Forest Certification Handbook*. (2nd ed) The Earthscan Forestry Library. London.

Vogt K., Larson B.C., Gordon J.C., Vogt, D. and Fanzeres A. (2000) *Forest Certification. Roots, Issues, Challenges, and Benefits*. CRC Press. London

Borges, J. G., L. Diaz-Balteiro, M. E. McDill and L. C. E. Rodriguez (Eds) 2014 *The management of industrial forest plantations. Theoretical foundations and applications*. Springer, Managing Forest Ecosystems Vol 33, pp. 443-464.