

Code: 1364 Economy of Natural Resources Management**Degree:** 2nd cycle –Natural Resources Management and Conservation**Curricular Year:** 1st**Semester Course:** 1st**Credits:** 6 ECTS**Compulsory****Language:** Portuguese/English**Responsible:** José Manuel Osório de Barros de Lima e Santos**Other lecturer(s):** Raúl da Fonseca Fernandes Jorge**Web Site:****1. Contact hours:****Lectures 14 Practicals/Laboratory 32 Others 1 Total 47****2. Objectives:**

Students should:

- understand the basic economic problem of choice in settings where resources are scarce;
- understand the basic economic problem of optimal dynamic allocation of stock-type resources;
- learn the basic economic concepts underlying the economic approach to natural resources;
- acquire the required analytical skills to formulate and solve problems of optimal management of natural resources.

3. Programme:

I - An introduction to environmental and natural resource economics

Scarcity, opportunity cost and choice. The economic functions of the environment. Pareto optimality, market failure and public intervention (Pigou and Coase). Market, property rights and environmental policy. The polluter-pays, user-pays and provider-gets principles. Economic evaluation of environmental policies.

II - The economic analysis of pollution

Steps in the definition of a pollution control policy. Policy tools. The role of environmental economics in the definition of control policies. The optimal pollution level. Practical limits to optimizing policies. Cost-efficient tools. Non-additive and diffuse pollutions.

III - The economic analysis of biodiversity

Economic causes of biodiversity loss. Conservation strategies – the role of environmental economics. Cost-efficient conservation policies. The economic value of biodiversity.

IV - The Economic analysis of natural resource management

Cost-benefit analysis. Theoretical foundations. Operational steps of a cost-benefit analysis. Time and discounting in cost-benefit analysis. Optimal dynamic allocation of stock-type natural resources. Examples of models for different types of resources: non-renewable (exhaustible), open access renewable, forests, water, etc.

4. Bibliography:

Main Bibliography

Nick Hanley e Clive Spash (1993). *Cost-benefit analysis and the environment*. Edward Elgar, Akldershot.

Tom Tietenberg (1988). *Environmental and Natural Resource Economics*. 3^ª Edição. Harper Collins Publishers, Nova Iorque.

Other Bibliography

Daniel W. Bromley e Ian Hodge (1990). Private property rights and presumptive policy entitlements: reconsidering the premises of rural policy. *European Review of Agricultural Economics* vol. 17 (2), pp. 197-214.

OECD (sd). Saving biological diversity. *Economic Incentives*. Organization for Economic Co-operation and Development, Paris.

5. Assessment:

- Final tests for each of the 4 modules (weight 55%);
- An assignment about an issue, chosen by the student, among a list of proposed issues related to module 4 (weight 30%);
- Seminar for the presentation and discussion of solved problems (weight 15%).

6. Estimated Workload:

162

 Hours

7. Last Update:

9/8/2010
