Code: 1652 **Biodiversity and Conservation**
Degree: 1st cycle - Biology
Curricular Year: 3rd **Semester Course: 2nd**
Credits: 6 ECTS **Compulsory**
Language: Portuguese/English
Prerequisites: Ecology
Responsible: Maria Helena Reis de Noronha Ribeiro de Almeida
Other lecturer(s): José Manuel Osório de Barros de Lima e Santos, Maria Teresa Marques Ferreira da Cunha Cardoso, Jorge Orestes Lasbarrères Cerdeira e Pedro Miguel Ramos Arsénio
Web Site: http://www.isa.utl.pt/home/node/3969

1. Contact hours:
Lecture/Praticals 70 **Others** 14 **Total** 84

2. Objectives:

In this discipline, students should learn the components of Biodiversity and understand the importance to maintain or recover it, they should know to identify the factors controlling it and biodiversity assessments.
They will be conscious of the need to use molecular markers, Mathematic models and GIS as tools to manage Biodiversity.

3. Programme:

Introduction to Biodiversity concept, Biodiversity and Man Welfare, Public Politics and and Biodiversity Conservation.
Study of biodiversity depletion causes and factors controlling the evolution of populations.
Basic concepts of Conservation Strategies for Genetic Resources and Management of endangered species.
Community and landscape diversity, patches and environmental gradients.
Different time and space to measure biodiversity.
Biodiversity drivers for communities and ecosystems.
Selecting biodiversity indicators at the community and ecosystem levels.
Biodiversity maintenance and recovery.
Levels of intervention: protection, management, rehabilitation and recovery.
Biotic integrity and ecosystem health.
Conservation of ecosystem functions.
Conservation within and outside protected areas.
Conservation under multiple use situations.
Carrying capacity and extractable use while maintaining sustainable populations.
Landscape level planning and action, exemplified by eco-region-based conservation, as a necessary strategy for achieving massive conservation results and for linking human development opportunities to that which sustains life on Earth and biological diversity.
Utilization of mathematic modelling and GIS in the Conservation of Biodiversity.

4. Bibliography:

Main Bibliography

- Frankham, R., Ballou, J:D. Briscoe, D.A. 2004 A Primer of Conservation Genetics. Cambridge. University Press: 219pg
- Gaston, KJ and JI Spices. (2004) Biodiversity, An Introduction. Blackwell Science. London

Other Bibliography

- Eriksson, G., Ekberg,I., Clapham D. 2006. An introduction to forest genetics, 2ª ed.Genetic Center, Dept. Plant Biology and Forest Genetics, SLU, Uppsala Sweden - ISBN 91-576-7190-7
Begon, Towsend & Harper 2006- Ecology from individuals to ecossystems.Blackwell Publ. Oxford: 482 – 511; 603 - 658
- William, J., ReVelle, C.S., Levin, S. 2005 – Spatial attributes and Reserve Design: A review . Environmental modelling and Assessment
- Margules, C.R., Oressey, R.L. 2000 Systematic Conservation planning. Nature 45: 243 – 245
- Margules, C.R., Oressey, R.L, Williams, P.H. 2002 Representing biodiversity: Data and Procedures for identifying priority areas for conservation. J. Biosci. 27: 309 -326
Other scientific papers

5. Assessment:

Continuous evaluation is performed by modules.
Evaluation of each module may consist of tests, and/or practical work.
Rules of each module are agreed upon by students and professor in charge.
Classification is estimated through a weighted average.
Each module weight depends on its duration**.**
Those students which continuous evaluation is equal or superior to 10 do not need to perform **final examination**.
Final examination covers all program and includes theory and practical questions.

6. Estimated Workload: 168 Hours
7. Last Update: 25/2/2011