Code: 1359 **Ecology and Management of Animal Populations**
Degree: 2nd cycle – Natural Resources Management and Conservation
Curricular Year: 1st **Semester Course: 1st**
Credits: 6 ECTS **Compulsory**
Language: Portuguese/English
Responsible: Manuela Rodrigues Branco Simões
Other lecturer(s): Elisabete Tavares Lacerda de Figueiredo Oliveira and José Carlos Franco Santos Silva
Web Site: http://www.isa.utl.pt/home/node/3866

1. Contact hours:
Lectures 14 **Praticals/Laboratory** 28 **Others** 1.5 **Total** 43.5

2. Objectives:

To understand the effects of environmental factors, abiotic and biotic, in the population ecology and dynamics.
To understand the ecological processes involved in population dynamics.
To understand the principles and applications of models in population dynamics.
To know applications of population ecology principles and modeling tools in the management of populations aiming its conservation, exploitation or suppression.

3. Programme:

Population ecology: principles, definitions and parameters.
Effect of abiotic and biotic factors on population processes.
Life cycles. Age and stage structure. Diagrammatic and conventional life tables. Survival analysis, Kaplan-Meyer estimate and survival tests.
Growth models (continues and discrete). Density-dependent models. Variability and stochasticity in the population dynamics. Age-structured models.
Intraspecific competition. Population regulation.
Interspecific interactions: Interspecific competition. Predation. Parasitism. Mutualism
Spatial patterns. Metapopulations.
Population management and its use in agriculture and forestry: Sustainability in the exploitation of populations; pest management; populations conservation.

4. Bibliography:

Main Bibliography

Townsend, C.R., Harper, J.L,Begon, M. 2000. Essentials of ecology. Blackwell. Oxford 552 p.
Akcakaya, H.R., Burgman, M.A., Ginzburg, L.R.,1999. Applied population ecology. Principles and computer exercises using RAMAS EcoLab 2.0. Sinauer Associates. Sunderland, MA (US). 285 p.
Begon, M.,Mortimer, M.,Thompson, D.J. 1996. Population ecology - a unified study of animals and plants. Blackwell. Oxford (GB). 247 p.

Other Bibliography

Dajoz, R. 2005. Princípios de ecologia. ARTMED. Porto Alegre. Brasil 519 pp.
Townsend, C.R., Harper, J.L,Begon, M. 2000. Essentials of ecology. Blackwell. Oxford 552 pp.
Pite, M.T.R., Avelar, T. 1996. Ecologia das populações e das comunidades. Uma abordagem evolutiva do estudo da biodiversidade. Fundação Calouste Gulbenkian. Lisboa.315 p.
Scientific text provided in the classes.

5. Assessment:

- Work reports for tasks conducted in the practical classes (5 to 7);
- Bibliographic review and synthesis on a theme or suited case presented and discussed in the classes;
- Theoretical tests 2.

6. Estimated Workload: 162 Hours

7. Last Update: 10/3/2011