

Code: 1402 Management and Conservation of Coastal and Marine Ecosystems

Degree: 2nd cycle – Natural Resources Management and Conservation

Curricular Year: 1st

Semester Course: 2nd

Credits: 6 ECTS

Compulsory

Language: Portuguese/English

Responsible: João José Roma de Paços Pereira de Castro

Other lecturer(s): Cristina Gama Castro Pereira, Maria Helena Soares Martins Adão and Pedro Raposo de Almeida

Web Site: <http://www.isa.utl.pt/home/node/3879>

1. Contact hours:

Lectures 14 Praticals/Laboratory 12 Praticals/Workfield 12 Seminar 4 Others 1.5 Total 43.5

2. Objectives:

Acquisition of basic on Biology, Ecology, Geology, management and conservation of marine shores. Great emphasis will be put on oceanic Portuguese shores.

Development of the capacity:

- of searching, selecting and analysing significant scientific information, and of analysing and discussing scientific papers;
- of making *in situ* observations;
- of suggesting *a priori* hypotheses, planning an experiment, obtaining data and interpreting the results, considering the hypothesis suggested.

Development of the ability to use English and Portuguese languages by means of reading scientific papers and writing a scientific paper.

3. Programme:

Contents

Patterns of community structure, and of abundance and distribution of benthic and pelagic species of marine shores. Physical (wave exposure, tides, coastal upwelling) and biological (predation, herbivory, competition, facilitation) processes and their interaction. Primary and secondary productivity, and trophic relations. Reproduction, settlement and recruitment.

Rock cycle and geological time scale. Physical and chemical characterization of detrital, clay and carbonate rocks. Morpho-dynamic processes on rocky and sandy marine shores. Geosphere-Biosphere interactions on marine shores.

Human disturbances: fisheries, pollution, alterations in physical habitat, introduction of exotic species, climate change. Management and conservation of marine shores and their resources: objectives, strategies and threats. Marine protected areas: selection, designation and management.

Teaching methods

Lectures for transmission of basic knowledge.

Visits to marine shores to make *in situ* observations, sample and obtain data for practical work.

Practical classes, in the laboratory or in the field, to observe marine organisms (plankton and benthos) and marine shore environments.

Practical classes to analyse data obtained in practical works, and to analyse and discuss following results.

Tutorial supervision, with the presence of the teacher or via e-mail.

4. Bibliography:

Barnes, R. S. K. e R. N. Hughes, 1999. Introduction to marine ecology. 3.^a edição, Blackwell Scientific Publications.

Bertness, M. D., 1999. The ecology of atlantic shorelines. Sinauer Associates, 417 pp.

Bertness, M. D., S. D. Gaines e M. E. Hay (editores), 2001. Marine community ecology. Sinauer Associates, 550 pp.

Clark, R.B., 2001. Marine pollution. Oxford University Press.

Kaiser, M. J., M. J. Attrill, S. Jennings, D. N. Thomas, D. K. A. Barnes, A. S. Brierley, N. V. Polunin, D. G. Raffaelli e P. J. B. Williams, 2005. Marine ecology. Processes, systems, and impacts. Oxford University Press, 557 pp.

Press, F. e Siever, R. 2002. Understanding Earth. 3.^a edição, W.H. Freeman and Company, New York, 573 pp.

Raffaelli, D. e S. Hawkins, 1996. Intertidal ecology. Chapman & Hall, 356 pp.

Salm, R., J. Clark e E. Siirila, 2000. Marine and coastal protected areas. A guide for planners and managers. IUCN – The World Conservation Union.

Schmitt, R.J. e C.W. Osenberg (editores), 1996. Detecting ecological impacts. Concepts and applications in coastal habitats. Academic Press.

Selley, R. C., 1996. Ancient sedimentary environments and their sub-surface diagnosis. Chapman & Hall, 242 pp.

5. Assessment:

Participation in workshops and scientific discussions, and execution, presentation and discussion of reports/papers (group and individual).

6. Estimated Workload:

162

 Hours

7. Last Update:

9/8/2010
