

Degree	Type	Year	Semester
4313784 Interdisciplinary Studies in Environmental, Economic and Social Sustainability	OT	0	1

Contact

Name: Martí Boada Juncà
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Teachers

Josep-Antoni Pujantell Albos

Use of languages

Principal working language: spanish (spa)

External teachers

Carles Barriocanal
Cinthia Pereira

Prerequisites

Students must have knowledge in environmental sciences and ability to follow lectures in English and Spanish.

Objectives and Contextualisation

The landscape as an expression of natural and social history.

Structure and Dynamics of the major biomes, sociocological dimension.

Methodology approach to understanding and analyzing examples in Latin America, Europe and Mediterranean region.

The module provides a historical perspective on the conservation origins and Natural Protected Areas (NPA), as well as the existing legislative figures of protection.

NPA management tools and biodiversity monitoring and conservation (in-situ, ex-situ) in the context of global change and its socioecological implications are studied.

Criteria and analytical and legal tools for diagnosis, assessment of environmental services and NPA management, particularly in the case of Biosphere Reserves and Urban biodiversity (the city as a socioecosystem) will be reviewed.

Main strategies for environmental education and communication, participation and communitary conservation processes involving NPA, will be studied from different case studies.

Skills

- Analyse how the Earth functions on a global scale in order to understand and interpret environmental changes on the global and local scales.
- Apply knowledge of environmental engineering to purification and decontamination in different environments
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Seek out information in the scientific literature using appropriate channels, and use this information to formulate and contextualise research in environmental sciences.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
- Work in an international, multidisciplinary context.

Learning outcomes

1. Apply knowledge of microorganisms' role in biodegradation processes and as bioindicators, and their potential in the implementation of clean technologies.
2. Assess human impact on coastal areas and the function of marine nature reserves, both coastal and oceanic, in biodiversity conservation and the capacity to generate biomass.
3. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
4. Develop and apply the knowledge and skills acquired in real cases.
5. Differentiate between biodegradation, degradation, mineralisation and other related concepts.
6. Identify the factors that determine the effectiveness of a biodegradation process.
7. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
8. Interpret current models for protected natural areas with local and worldwide cases, both marine and terrestrial.
9. Locate and analyse the great biogeographical regions and their situation regarding the conservation of biodiversity.
10. Propose the most suitable biodegradation strategy for the type of contaminant and the stage(s) it is at.
11. Seek out information in the scientific literature using appropriate channels, and use this information to formulate and contextualise research in environmental sciences.
12. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
13. Summarise and interpret, in a logically-reasoned way, the information from studies on biodegradability or molecular biology.
14. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
15. Work in an international, multidisciplinary context.

Content

1st Class. (October, 17)

Module presentation. Conceptual dynamics. Origins of the landscape. Biophysical and socio-economic driving forces. Active transformation of landscapes. The Holocene. From Paleolithic to Neolithic.

2n Class. (October, 19)

Qualitative and quantitative approaches to landscape.

3rd Class. (October, 24)

Socioecological heritage and rural landscapes.

4th Class. (October 26)

Genesis of conservationism: From Hippocrates to Brundtland. Modern figures of protection: From Yellowstone to community conservation.

5th Class. (November, 2)

Protection schemes: Biosphere Reserves. Mediterranean Network of Biosphere Reserves. Cases of study: Perú (Oxapampa) Ecuador (Yasuní).

6th Class. (November, 7)

Protection schemes: National Park. Examples: California (Sequoia) and Doñana.

7th Class (November, 9)

Protection schemes: Natural Park. Examples: Montseny, Alt Pirineu, Cevennes. Examples of knowledge transfer: European Forest Museum Project.

8th Class (November, 14)

"Ex situ" and "In situ" conservation. The case of the Montseny brook newt.

9th Class (November, 16)

Knowledge of the environment: medicinal and toxic plants. Toxic plants. Forest and health. Therapeutic forests.

10th Class (November, 21)

Knowledge of the environment: wild fruits. New trends in sustainable tourism.

11th Class (November, 23)

Master Thesis: Proposals. Discussion.

Field trip to the Natural Park Montseny (November, 18)

Field trip to the Castellet Castle (December, 13)

(Joint Field trip with the Global Change group.)

Biosphere Reserves. MaB Program. The UNESCO Centre for Mediterranean Biosphere Reserves Network.

Methodology

Lectures

Troubleshooting classes / cases / exercises

Classroom practices

Active participation in the classroom

Field trip

Essays/works

Activities

Title	Hours	ECTS	Learning outcomes
Type: Directed			
Theoretical presentations	30	1.2	10, 3
Type: Supervised			
Essays oral presentations	20	0.8	4, 6, 3, 7
Type: Autonomous			
Essays/works preparation	40	1.6	1, 11, 3
Lectures	40	1.6	5, 7

Evaluation

The final mark will be the result of the assistance and active participation in class (40%), the delivery of essays/works (40%) and oral presentations (20%).

Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Active participation in the classroom	40%	4	0.16	11, 12, 3, 7, 13
Essays oral presentations	20%	2	0.08	1, 11, 4, 6, 8, 10, 12, 3, 7, 13, 9, 14, 15, 2
Essays/works delivery	40%	14	0.56	1, 11, 4, 5, 6, 8, 10, 12, 3, 7, 13, 9, 14, 15

Bibliography

Badia, A.; Otero, I; Maneja, R; Estany, G; Boada, M. (2008). Canvi global i paisatge a la Costa del Tet-Mont-rodon (Matadepera, Vallès Occidental). Analitzar el passat per planificar el futur (1956-2006). Documents d'Anàlisi Geogràfica 52, 2008 (31-48).

Boada, M.; Sánchez, S.; Maneja, R.; Varga, D. (2011): Diseño de indicadores para la evaluación de los servicios ambientales ofrecidos en la Reserva de la Biosfera del Montseny, 43-63, a M. Onaindía (Ed.): Servicios Ambientales en Reservas de la Biosfera Españolas. Organismo Autónomo de Parques Nacionales. Ministerio de Medio Ambiente. UNESCO. Red Española de Reservas de la Biosfera. NIPO: 781-10-040-5.

Boada, M.; Sánchez, S.; Pujantell, J.; Varga, D. (2010): Manifestaciones del cambio global: indicadores socioecológicos en la Reserva de la Biosfera del Montseny, a Araya, P. i Clüsener-Godt, M. (eds.): Reservas de la Biosfera. Su contribución a la provisión de servicios de los ecosistemas. UNESCO. 161-178. ISBN: 978-956-332-417-4.

Boada, M., Mayo, S. i Maneja, R. (coords.) (2008): Els sistemes socioecològics de la conca de la Tordera. Barcelona: Institució Catalana d'Història Natural. 345-374. ISBN: 978-84-7283-983-0.

Boada, M.; Boada, A.; Sánchez, S. (2005): Els fruits silvestres. Ecologia i cultura. Barcelona: Cercle de lectors. 218 pàgines.

Boada, M.; Saurí, D. (2002): El canvi global. Barcelona: Editorial Rubes.

- Boada, M. (2002): El Montseny. Cinquanta anys d'evolució dels paisatges. Barcelona: Publicacions de l'Abadia de Montserrat.
- Boada, M. (2001): Manifestacions del canvi ambiental global al Montseny. Bellaterra: Universitat Autònoma de Barcelona. Tesis Doctoral.
- Boada, M.; Rosell, C. (1989): Bibliografia del Montseny, en AIXA, 3.
- Broncano, M.J.; Vilà, M.; Boada, M. (2005): Evidence of *Pseudotsuga menziesii* naturalization in montane Mediterranean forests, en *Forest Ecology and Management*, 211:257-263.
- Gómez, F.J.; Boada, M.; Sánchez, S. (2008): Análisis de los procesos de cambio global: el caso del robledal de Ridaura (Parque Natural del Montseny. Barcelona), en *Boletín de la Asociación de Geógrafos Españoles*, 47:125-141.
- Maneja-Zaragoza, R.; Varga Linde, D.; Boada Juncà, M. (2013). Drawing Analysis: Tools for Understanding Children's Perceptions of Community Conservation (159-170), a L. Porter-Bolland et al. (eds.), *Community Action for Conservation: Mexican Experiences*, Springer Science+Business Media New York 2013.
- Maneja R., Boada M., Barrera-Bassols, N. i McCall, M. (2008). Percepciones socioambientales infantiles y adolescentes. Propuestas de educación ambiental. La Huacana (Michoacán, México). *Utopia y Praxis Latinoamericana*. Revista Internacional de Filosofía Iberoamericana y Teoría Social. Venezuela. Año 14. No44. Pp. 39-51.
- Onaindia, M. (2009): Informe sobre el diseño metodológico genérico para la evaluación de los servicios medioambientales ofrecidos por las reservas de la Biosfera. Leioa: Universidad del País Vasco. Documento inédito.
- Peñuelas, J.; Boada, M. (2003): A global change-induced biome shift in the Montseny mountains (NE Spain), en *Global Change Biology*, 9:131-140.
- Sánchez, S; Boada, M. (2008): Anàlisi dels efectes del canvi d'usos i cobertes del sòl sobre els cabals superficials a la vall de Santa Fe (1959-2001). Bellaterra: Universitat Autònoma de Barcelona. Informe inédito.
- Turner, B.L.; et al. (1995): *Global land use change. A perspective from the Columbian Encounter*. Madrid: CSIC.
- DIBAb (2010): Diputació de Barcelona. Xarxa de Parcs Naturals. <http://www.diba.es>
- DMAH (2008): Generalitat de Catalunya. <http://mediambient.gencat.net>