

SUBJECT TEACHING GUIDE

M1889 - Processes, functions and ecosystem services

Master's degree in integrated management of water systems

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Master's degree in integrated management of water systems			Type and Year	Compulsory. Year 1
Faculty	School of civil Engineering				
Discipline					
Course unit title and code	M1889 - Processes, functions and ecosystem services				
Number of ECTS credits allocated	3	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE				
Name of lecturer	MARIA ARACELI PUENTE TRUEBA				
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Other lecturers	JOSE BARQUIN ORTIZ				

3.1 LEARNING OUTCOMES

- Students will know the basic structure and functioning of aquatic ecosystems, especially with regard to the cycles of matter and energy, and their physical, chemical and biological processes
- Students will recognize the differences and similarities in physical, chemical and biological characteristics of the different aquatic ecosystems and will know their spatial and temporal variability
- Students will know the main pressures of aquatic ecosystems and the changes produced in their structure and functioning
- Students will identify and assess the ecosystem services provided by inland, transitional and coastal water systems.

4. OBJECTIVES

The general objective of the course is to give an overview of the most relevant structural and functional aspects of aquatic ecosystems, including changes induced by anthropogenic pressures and their relationship to the goods and services they provide.

6. COURSE ORGANIZATION

CONTENTS

1	1. Introduction to aquatic ecology
2	2. Functions and processes of inland aquatic systems
3	3. Functions and processes of littoral and marine aquatic systems
4	4. Pressures and impacts on the aquatic environment
5	5. Ecosystem services
6	Final exam

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Final exam	Written exam	Yes	Yes	40,00
Thematic seminar	Work	No	Yes	30,00
Tecnical visit to riverine aquatic ecosystems.	Activity evaluation with Virtual Media	No	No	10,00
Tecnical visit to estuaries and coastal sites	Activity evaluation with Virtual Media	No	No	10,00
Test themes 1 a 3	Activity evaluation with Virtual Media	No	Yes	10,00
TOTAL				100,00

Observations

En relación con los acuerdos adoptados en la sesión ordinaria de la Junta de Escuela celebrada el día 10 de junio de 2010, se establece que, con respecto a las actividades evaluación que tengan el carácter de recuperables,

- Como criterio general y salvo que en esta guía se especifique una cosa diferente, un alumno sólo podrá presentarse a la recuperación de aquellas actividades que no haya superado, es decir, en las que no haya obtenido una calificación mínima de cinco sobre diez.

- Como criterio general y salvo que en esta guía se especifique una cosa diferente, en el período de recuperación el procedimiento de evaluación de una actividad será el mismo que el de la actividad que la origina.

Nota: según el Real Decreto 1125/2003 sobre el sistema europeo de créditos y el sistema de calificaciones en las titulaciones universitarias de carácter oficial y validez en todo el territorio nacional, los resultados obtenidos por el alumno en cada una de las materias del plan de estudios se calificarán en función de la siguiente escala numérica de 0 a 10, con expresión de un decimal, a la que podrá añadirse su correspondiente calificación cualitativa:

0,0 - 4,9: Suspenso (SS). 5,0-6,9: Aprobado (AP). 7,0-8,9; Notable (NT). 9,0-10: Sobresaliente (SB)

Observations for part-time students

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Barnes, R.S.K. & Mann, K.H. 1991. Fundamentals of aquatic ecosystems. Blackwell Scientific Publications. Oxford. 2ª edición.

Dobson, M., Frid CH. 1998. Ecology of aquatic ecosystems. A.W. Longman Ltd. Harlow. UK. 222 pp.

Margalef, R. 1983. Limnología. Omega. Barcelona.

WHO. 2002. Eutrophication and Health. World Health Organization.

Marine Pollution. R.B. Clark. 2001. Fifth edition. Oxford University Press

González del Tánago, M. y García de Jalón, D. 2001. Restauración de Ríos y Riberas. Universidad Politécnica de Madrid.

McLusky, D.S., Elliot, M. 2004. The estuarine ecosystem. Ecology, threats and management. Oxford University Press

Millennium Ecosystem Assessment. 2005. Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC.

Frid, C., Dobson, M. 2013. Ecology of Aquatic Management. Oxford University Press

Kareiva, P., Tallis, H., Ricketts, T.H., Daily, G.C., Polasky, S. 2011. Natural Capita: Theory and Practice of Mapping Ecosystem Services. Oxford University Press