SUBJECT TEACHING GUIDE

G1169 - Water Resources and Development

Degree in Civil Engineering

Academic year 2021-2022

1. IDENTIFYING DATA					
Degree	Degree in Civil Engineering			Type and Year	Optional. Year 4
Faculty	School of civil Engineering				
Discipline	Optional Subjects: Curricular Itinerary 2				
Course unit title and code	G1169 - Water Resources and Development				
Number of ECTS credits allocated	6	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 ANTONIO JUANES DE LA PEÑA SAMUEL SAINZ VILLEGAS

3.1 LEARNING OUTCOMES
- To prove the ability of critical analysis on water problems at different geographical scales
- To prove the ability of synthesizing and integrating multidisciplinary data related to the study of water resources
- To develop a management plan aimed at solving specific problems related to the use of water resources

4. OBJECTIVES

This course aims to train students in water resources issues, considering a framework of global change and the maintenance of environmental sustainability.

6. COURSE ORGANIZATION

CONTENTS	
1	1. Water in a changing world: the water crisis
2	2. Goods and services of aquatic systems
3	3. Threats and pressures on water systems
4	4. Challenges for human welfare and development related to water resources
5	5. Challenges for water governance and management in a changing world
6	P1. Water debate in press, literature and cinema
7	P2. Water resources in the large regions of the world
8	P3. Case study

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Presentation and debate	Others	No	No	20,00
Presentation of case study P2	Work	No	Yes	20,00
Development of case study (P3)	Work	No	Yes	30,00
Continuous evaluation	Activity evaluation with Virtual Media	No	Yes	30,00
TOTAL				100,00

Observations

As accorded by the relevant committees: As a general rule and unless stated otherwise anywhere in this guide, a student cannot request a reexamination if the original grade obtained in the evaluation was not a fail. As a general rule and unless stated otherwise anywhere in this guide, the reexamination activity will take the same form than the original evaluation activity. Grades are measured on a numeric scale going from 0 to 10, where values smaller than 5 are a Fail. Only for sufficiently justified reasons (i.e. sanitary restrictions), the evaluation activities could be organized online, if authorized by the School Director.

Observations for part-time students

Part-time students will need to agree with the responsible professor a teaching and evaluation plan to ensure an adequate transfer of knowledge as well as a fair evaluation procedure. The minimum requirement for this students will be to complete a piece of homework and to assist to the final exam of the subject. The weights of each part will be proportional to the weight those parts presents in the general evaluation scheme of the subject.

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
WWAP. 2003. Agua para todos, agua para la vida. 1er informe de las UN sobre el desarrollo de los recursos hídricos en el mundo. Ediciones UNESCO. (www.unesco.org/water/wwap)
WWAP. 2007. El agua, una responsabilidad compartida. 2º Informe de las Un sobre el desarrollo de los recursos hídricos en el mundo. Ediciones UNESCO. (www.unesco.org/water/wwas)
WWAP. 2009. El agua en un mundo en constante cambio. 3er Informe de las UN sobre el desarrollo de los recursos hídricos en el mundo. Ediciones UNESCO. (www.unesco.org/water/wwap)
WWAP. 2012. Managing water under uncertainty and risk. 4º Informe de las UN sobre el desarrollo de los recursos hídricos en el mundo. Ediciones UNESCO. (www.unesco.org/water/wwas)
WWAP. 2014. Water and Energy. UN World Water Development Report 2014. Ediciones UNESCO. (www.unesco.org/water/wwas)
WWAP. 2015. Agua para un mundo sostenible. Informe Mundial de las Naciones Unidas sobre el Desarrollo de los Recursos Hídricos 2015. Ediciones UNESCO. (www.unesco.org/water/wwas)
WWAP. 2016. Agua y empleo. Informe Mundial de las Naciones Unidas sobre el Desarrollo de los Recursos Hídricos 2016. Ediciones UNESCO. (www.unesco.org/water/wwas)
WWAP. 2017. Wastewater: The Untapped Resource. UN World Water Development Report 2017. Ediciones UNESCO. (www.unesco.org/water/wwas)
WWAP. 2018. Soluciones basadas en la naturaleza para la gestión del agua. Informe Mundial de las Naciones Unidas sobre el Desarrollo de los Recursos Hídricos 2018. Ediciones UNESCO. (www.unesco.org/water/wwas)
Jacobson, M, Meyer, F., Oia, I, Reddy, P, Tropp, H. 2013. User's guide on assessing water governance. Informe de United Nations Development Programme (UNDP). Oslo Governance Centre. 100 pp