SUBJECT TEACHING GUIDE

M2055 - Analysis of hydrometeorological risk analysis. Water safety

Master's degree in integrated management of water systems

Academic year 2022-2023

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	M2055 - Analysis of hydrometeorological risk analysis. Water safety				
Number of ECTS credits allocated	4	Term		Semester based (2)	
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE
Name of lecturer	JOSE BARQUIN ORTIZ
E-mail	jose.barquin@unican.es
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 0. DESPACHO DE JOSE BARQUIN ORTIZ (0022)
Other lecturers	JOSE ANTONIO JUANES DE LA PEÑA

3.1 LEARNING OUTCOMES
- The student will know and apply different methods for the integration of data and models in a hydrographic basin.
- The student will learn the main tools and methodologies to evaluate hydro-meteorological risk impacts on human life as well as on the economy and aquatic systems
- The student will be able to summarize, present in front of an audience, discuss and defend ideas and results about topics proposed by the lecturer related to risk assessment.
- The student will summarize, explain, discuss and defend ideas and/or results about the topics covered in the course related to risk management

4. OBJECTIVES

Train students to carry out a water security analysis that allows them to design different mitigation and adaptation actions at different spatial and temporal scales.

6. COURSE ORGANIZATION

CONTENTS	
1	Water resources: Uses and demand
2	Water scarcity and drought
3	Water security definition and dimensions
4	Methods and indicators for the quantification of Water Security
5	Water resource management
6	Efectos of climate change on water security
7	Adaptation and solutions
8	Final test and work exposition

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Final Exam	Written exam	Yes	Yes	40,00
Practical work on a real case	Work	Yes	Yes	10,00
Practical work on environmental flows	Work	Yes	Yes	20,00
Practical work about adaptation actions	Work	Yes	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 duly justified reasons (e.g. sanitary restrictions) the evaluation tests may be organized remotely, with prior authorization from the University.

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
Loucks, D.P.; Stedinger, J.R. Water resources systems planning and management. An introduction to methods, models and applications. UNESCO.2005
Guidelines for rainfall-runoff modelling. Towards best practice model aplication. (2012). eWater Lts.