

SUBJECT TEACHING GUIDE

M2055 - Analysis of hydrometeorological risk analysis. Water safety

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	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	MANUEL DEL JESUS PEÑIL				
E-mail	manuel.deljesus@unican.es				
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 3. LOCAL 11 - Hidráulica (3009)				
Other lecturers	JESUS CASADO RODRIGUEZ				

3.1 LEARNING OUTCOMES
- The student will understand and will be able to evaluate the different components of risk : hazard, vulnerability, exposition, etc.
- 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

To allow students to carry hydrological studies applied to water resources assessments, to quantify water security indicators, mostly through the analysis of drought and flooding risks.

6. COURSE ORGANIZATION

CONTENTS

1	Hydrological and water resources management models
2	Hydrological planning.
3	Water resources: basic concepts.
4	Water uses
5	Demand fulfilling performance
6	Surface and underground water exploitation: Optimization and management models.
7	The economy of water: Costs and benefits Economic indicators
8	Final test and work exposition

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Final Exam	Written exam	Yes	Yes	50,00
Individual work exposition	Work	Yes	Yes	50,00
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.				
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

Hydrologic modelling system HEC-HMS. Technical reference manual.(2000). US Army corps of Engineers. Hydrologic Engineering Center.

Guidelines for rainfall-runoff modelling. Towards best practice model application. (2012). eWater Lts.

