MODULE TEACHING GUIDE

	1th COURSE
	2th semester
41868	Climate Change
41869	Global Change
40966	Transversal concepts and techniques II

MODULE TEACHING GUIDE

40966	Transversal concepts and techniques II
International environmental policy Geographical information systems (GIS) II Techniques of scientific communication Seminars in Environmental Sciences	

GENERAL DATA OF THE MODULE

Name	Transversal concepts and techniques II
Code	40966
Course and teaching period	February through July
Schedule	Check at the website
Credits ECTS	10
Type of Module	**Common of Master ✓ Common of speciality ☐ Optional**
Previous requirements to follow the module	
Teaching language	English
Module responsible	Maria Rosa Rovira
Department responsible	Economia de l'Empresa

TEACHING TEAM

Professor name	Department	Office	e-mail	Tutorials
Maria Rosa Rovira	Economia de l'Empresa (Business)		MariaRosa.Rovira@uab.cat	
Graham Mortyn	Geography		graham.mortyn@uab.es	

Agusti Lobo	ICTA		agustin.lobo@ija.csic.es	

MODULE TEACHING GUIDE

41869	Global change
Conceptual basis of Global Change and its study taking into a account different temporal and spatial perspectives and context. Natural and anthropogenic causes of global change, their impacts, and perception at local level through changes in land-use and landscapes. Anthropogenic alteration of biogeochemical cycles and ecosystems.	

GENERAL DATA OF THE MODULE

Name	Global Change
Code	41869
Course and teaching period	April through July
Schedule	Thursdays (some mornings, most afternoons 15h-18h)
Credits ECTS	10
Type of Module	**Common of Master ✓ Common of speciality ☐ Optional**
Previous requirements to follow the module	
Teaching language	English
Module responsible	Graham Mortyn
Department responsible	Geography

TEACHING TEAM

Professor name	Department	Office	e-mail	Tutorials
Graham Mortyn	Geography		graham.mortyn@uab.es	

Toni Rosell	Geography		antoni.rosell@uab.es	
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MODULE ESPECIFIC DATA

Educational objectives of the Module	At the end of the module, the student will be capable of: *Understanding and explaining many of the types of impacts related to global change, covering a variety of spatial and temporal timescales. They will be able to discern changes and impacts caused by climate vs. those with other forcing mechanisms. They will focus their studies and efforts on changes in land use, biodiversity, the global carbon cycle, and ecosystem impacts and repercussions. Both terrestrial and marine systems will be explored.*	
Specific skills of the module	**Skill**	**Description**
	explain climate vs. other causes	**clear distinction between climate vs. other driving forces of impact and change**

Module structure and contents	1. Historical perspective of global change: what is climate and what is not? A thorough analysis of the distinctions between climate and global change from a variety of past timescales. 2. The modern ocean and ways in which impacts are delivered and observed. Issues to be addressed include seawater composition, air-sea interaction, ocean circulation, and marine biological productivity. 3. Global change and ecosystems impacts, with focus on the marine environment. A more detailed analysis of whole marine ecosystems, including phytoplankton on up to highest trophic levels. Particular emphasis on fisheries. 4. Global change and ecosystems impacts, with focus on local terrestrial environment. Local terrestrial impacts will be explored in detail, with particular emphasis on land use changes and recent human influences. Terrestrial carbon cycling will be deciphered through analysis of vegetation and ecosystem systems. 5. The module will include a 3-day field trip to the Catalan Pyrenees Mts., in order to explore first-hand local impacts and land use changes as functions of global change processes.
Teaching methodology	*Teaching and discussions will occur during class times, guided by particular readings assigned by individual instructors. There will also be a field trip to the mountainous regions of Catalonia led by 2 of the instructors.*
Evaluation	There will be evaluations based on a short answer / essay exam at the end of the module.
Bibliographic and web links	To be provided by individual instructors as the course proceeds.

MODULE TEACHING GUIDE

41868	Climate Change
Patterns, causes and mechanism of natural climate change. Impact of human activities in the present climate dynamics, and possible future scenarios. Tools and approaches to study the climate system.	

GENERAL DATA OF THE MODULE

DADES GENERALS DEL MÒDUL

Code	Climate Change
Course and teaching period	41868
Schedule	
Credits ECTS	
Type of Module	10
Previous requirements to follow the module	
Teaching language	
Module responsible	English
Department responsible	Antoni Rosell
Code	ICTA

EQUIP DOCENT (afegiu més fileres si és el cas)

Nom professor	Departament	Despatx	e-mail	Horari tutories
Pere Masqué	Física	C5-430	Pere.Masque@uab.es	a concertar
Graham Mortyn	Geografia	C3p-4a planta	Graham.Mortyn@uab.es	a concertar
Antoni Rosell	ICTA	C3p-4a planta	Antoni.Rosell@uab.es	a concertar
Rainer Zahn	ICTA	C3p-4a planta	Rainer.Zahn@uab.es	a concertar
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