## ENERGY MANAGEMENT 2022-23



# DEGREE CURRICULUM ENERGY MANAGEMENT

Coordination: GONZÁLEZ GUTIERREZ, JOSÉ ABEL

Academic year 2022-23

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## Subject's general information

Subject name	ENERGY MANAGEMENT							
Code	12425							
Semester	2nd Q(SEMESTER) CONTINUED EVALUATION							
Туроlоду	Degree	Course	Character	Modality				
	Master's Degree in Mountain Areas Management		1	OPTIONAL	Blended learning			
Course number of credits (ECTS)	3							
Type of activity, credits, and groups	Activity type	PRAULA		TEORIA				
Number of credits		1.5	1.5		1.5			
	Number of groups	1		1				
Coordination	GONZÁLEZ GUTIERREZ, JOSÉ ABEL							
Department	-SENSE DEPARTAMENT-							
Important information on data processing	Consult <u>this link</u> f	or more information.						

## **ENERGY MANAGEMENT 2022-23**

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
CALBO ANGRILL, JOSEP	josep.calbo@udg.edu	1	
GONZÁLEZ GUTIERREZ, JOSÉ ABEL	jose.gonzalez@udg.edu	1	
MONTORO MORENO, LINO	lino.montoro@udg.edu	1	
PAUL AGUSTI, DANIEL	daniel.paul@udl.cat	0	

## Learning objectives

Know the energy resources available in mountain areas and their possibilities and limitations of exploitation.

Evaluate the alternative energies that would currently be feasible to apply to mountain areas.

### Competences

#### General

CG4 Analyze the underlying dynamics of new and complex situations, design alternative resolution strategies and take advantage of the potential for improvement.

CG6 Intervene in conflict resolution and the definition of objectives and development measures between local, private and administration agents.

#### Specific

CE4 Identify essential cartographic sources and apply Geographic Information Systems to physical and social reality

CE7 Design alternatives for growth and development of tourism activities, energy use and other innovative sectors in mountain areas.

## Subject contents

Energy sources and diversification.

Basic technical aspects of energy sources (fossil and renewable, distribution and consumption). Energy saving and efficiency.

Effect of energy generation and use on global change.

Cases of specific areas: building and transport.

## Methodology

Teaching methodology	Learning activities	
	Reading of written / audiovisual / graphic documentation prepared	
Theory online	Web conferencing	
	Weminar	
	Debate forums	
	Self-monitoring activities	
Practices/work online	Report and project writing	
	Problem practices	
	Search for information	
	Case study	
Validation tests	Online validation presentation / test	

## Development plan

Weeks 1 and 2. Fundamentals, fossil and renewable energy sources, production and demand structure.

Weeks 3, 4 and 5. Renewable resources in the mountains (solar, wind, others).

Week 6. Energy efficiency. Building. Transport.

Week 7. Environmental impact of production, mountain areas.

Week 8. Project / proposal.

During the course the necessary material will be supplied and training activities will be carried out. Exercises to be delivered will be proposed and an applicable project or proposal in mountain areas will be developed individually.

## Evaluation

Exercices       25%       DIDIOGRAPHY         Reports, analysis reports or applied projects       35%       www_International En	Pibliography		
Reports, analysis reports or applied projects 35% www International En	25% Bibliography	Былодгарту	
	olied projects 35% www International End	ergy	
Project/proposal presentation 15% http://www.iea.org/	15% http://www.iea.org/	http://www.iea.org/	
Participation in forums and other online activities 15% Uversificación y Ahorr	er online activities 15% Www Instituto para la Diversificación y Ahorro	o de	
Virtual Campus usage logs	10% Energía (IDAE) at		

www Institut Català d'Energia (ICAEN) at http://www20.gencat.cat/portal/site/icaen Book Gordon, Jeffrey (cop. 2001). Solar energy : the state of the art : ISES position papers . London: James & James.

Electronic book ICAEN (2011). Energia solar fotovoltaica at http://icaen.gencat.cat Col·lecció Quadern Pràctic, no 4.

Electronic book ICAEN (2009). Energia solar tèrmica at http://icaen.gencat.cat Col·lecció Quadern Pràctic, no 3. Book Ramon Sans Rovira, Elisa Pulla Escobar (2013). El col·lapse és evitable. Octaedro.

Electronic book Da Rosa, Aldo Vieira (2009). Fundamentals of renewable energy processes (2nd ed). Boston: Academic Press/Elsevier at http://www.sciencedirect.com/science/book/9780123746399

Electronic book Félix Avia (2012). La energía eólica. At https://www.fundacionnaturgy.org

Electronic book Javier Calonge (2012). La eficiencia energética en el alumbrado. At

http://www.fundaciongasnaturalfenosa.org

Book Twidell, John W (1986). Renewable energy resources . London [etc.]: E & FN Spon.