

Gestió de l'Aigua, l'Energia i el Territori**2014/2015**

Codi: 43063

Crèdits: 9

Titulació	Tipus	Curs	Semestre
4313784 Estudis Interdisciplinaris en Sostenibilitat Ambiental, Econòmica i Social	OT	0	2

Professor de contacte

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Utilització de llengües

Llengua vehicular majoritària: anglès (eng)

Grup íntegre en anglès: No

Grup íntegre en català: Sí

Grup íntegre en espanyol: No

Prerequisites

Oral and written English skills

Objectius

The module pretends to introduce students to current debates on the management of water and energy resources, emphasizing the territorial dimension. An attempt will be made to collect case studies at different scales in different areas of the world on these issues although a certain Mediterranean focus is to be expected.

The course will pay special attention to contrasting conventional management models based on centralized technologies, expert approaches and "top-down" management, with more alternative resources, decentralized technologies and a participatory processes open to larger segments of society. Both models will be compared in terms of governance and another very important element of the course will be the analysis of the territorial conflicts arising in the application of these management models.

Through readings of selected materials, presentations by instructors (and occasionally by invited guests) and class presentations and discussions students are expected to gain a basic, robust knowledge on water and energy alternatives and of their different governance frameworks.

Competències

- Aplicar els coneixements d'economia ambiental i ecològica a l'anàlisi i a la interpretació de problemàtiques ambientals.
- Que els estudiants siguin capaços d'integrar coneixements i enfrontar-se a la complexitat de formular judicis a partir d'una informació que, tot i ser incompleta o limitada, inclogui reflexions sobre les responsabilitats socials i ètiques vinculades a l'aplicació dels seus coneixements i judicis
- Que els estudiants sàpiguen aplicar els coneixements adquirits i la seva capacitat de resolució de problemes en entorns nous o poc coneguts dins de contextos més amplis (o multidisciplinaris) relacionats amb la seva àrea d'estudi.
- Treballar en un context internacional i multidisciplinari

Resultats d'aprenentatge

1. Conèixer diferents models de gestió de l'aigua i de l'energia, especialment pel que fa a la dimensió territorial.
2. Conèixer i comprendre els principals conflictes territorials i socioambientals vinculats amb la gestió de l'aigua i de l'energia.
3. Conèixer i comprendre noves formes de governança de l'aigua i de l'energia.
4. Que els estudiants siguin capaços d'integrar coneixements i enfrontar-se a la complexitat de formular judicis a partir d'una informació que, tot i ser incompleta o limitada, inclogui reflexions sobre les responsabilitats socials i ètiques vinculades a l'aplicació dels seus coneixements i judicis
5. Que els estudiants sàpiguin aplicar els coneixements adquirits i la seva capacitat de resolució de problemes en entorns nous o poc coneguts dins de contextos més amplis (o multidisciplinaris) relacionats amb la seva àrea d'estudi.
6. Treballar en un context internacional i multidisciplinari

Continguts

Introduction to the course, organization and distribution of the readings by topic. Lecture: The water-energy nexus

The governance of large conventional hydraulic technology : reservoirs and water transfers

The governance of large alternative hydraulic technology: desalination and water reuse

The change of scale. Governance of decentralized water resources: groundwater, greywater and rainwater

Managing water demand: technology vs economy

Managing water demand: the behavioral component

Managing water demand: the role of structural factors

Integrated water management in cities: the liberal view

Integrated water management in cities: the emancipatory view

Energy efficient Territories: land use and social metabolism

Fossil energy sources, "peak oil" and climate change

Energy security and risk management: nuclear energy and social movements

Renewable Energy I: solar and wind energy

Renewables II: biological energy

Electricity governance: production, distribution and marketing

Final energy consumption: Towards a demand management

Social innovation and local development: cities in transition and energy cooperatives

Conclusions: synthesis and comparative analysis of management models of water and energy resources

Metodologia

The class will follow a seminar format consisting first on a brief introduction to the specific topic given by the instructor followed by the presentation of course work (assigned readings) by students, the group discussion of the main points discussed in the readings, and a final conclusion coordinated by the instructor. In some sessions we will have an invited speaker. Students are expected to read the assigned materials; prepare and guide discussions and participate actively in the debates

Activitats formatives

Títol	Hores	ECTS	Resultats d'aprenentatge
Tipus: Dirigides			
Case studies	12	0,48	
Lectures	10	0,4	
Oral presentation	7	0,28	
Seminars	25	1	

Tipus: Supervisades

Preparation of oral presentations	4	0,16
Readings	40	1,6
Resolution of case studies	10	0,4
Tutorials	6	0,24
Tipus: Autònomes		
Personal study	25	1
Preparation of papers	45	1,8
Readings	35	1,4

Avaluació

Active participation in class (25%)

Oral presentations (25%)

Resolution of cas estudies (10%)

Paper to be discussed with instructors (40%)

Activitats d'avaluació

Títol	Pes	Hores	ECTS	Resultats d'aprenentatge
Final work	40%	2	0,08	1, 2, 3, 4, 5
Oral presentation	25%	2	0,08	1, 2, 5
Participation in seminars	25%	2	0,08	1, 2, 5
Resolution of case studies	10%	0	0	1, 2, 3, 4, 5, 6

Bibliografia

Bibliography (Water)

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- Boyle, G. (Ed.). 2004. Renewable energy: power for a sustainable future. Oxford: Oxford University Press.
- Boyle, G. (Ed.). 2007. Renewable electricity & the grid: the challenge of variability. London: Earthscan Publications.
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- Scheer, H. 2011. Imperativo energético. Barcelona: Icària
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- (A more comprehensive readinglist will be distributed at the beginning of each part)