

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

Professor de contacte

Nom: Marc Parés

Correu electrònic: Marc.Pares@uab.cat

Utilització d'idiomes a l'assignatura

Llengua vehicular majoritària: anglès (eng)

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 participatory processes open to larger segments of society. Both models will be compared in terms of governance and power relationships. Another very important element of the course will be the analysis of territorial conflicts arising in the operation of these management models.

Through readings of selected materials, lectures and class presentations and discussions, students are expected to gain a basic, robust knowledge on water and energy issues from environmental, social, and territorial perspectives.

Competències

- Aplicar els coneixements d'economia ambiental i ecològica a l'anàlisi i a la interpretació de problemàtiques ambientals.
- 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.
- 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
- 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 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.
5. 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
6. Treballar en un context internacional i multidisciplinari

Continguts

1. Planning, water and energy

- Nature, society and power
- Planning and management
- The water-energy nexus

2. Water and energy supply

- Large conventional hydraulic technology: reservoirs and water transfers
- Large alternative hydraulic technology: desalination and water reuse
- Fossil energy sources, "peak oil" and climate change
- Energy security and risk management: nuclear energy and social movements
- Renewal energy: solar, wind and biological energy

3. Water and energy demand

- Technology vs economy
- The behavioral component
- The role of structural factors

4. The politics of scale

- Scalar effects and multilevel governance
- Centralized and decentralized models
- Governance of decentralized water resources: groundwater, greywater and rainwater
- Electricity governance: production, distribution and commercialization

5. Commodification, social protection and emancipation

- Privatization and municipalization
- Water and energy as social needs
- Governance of the commons and governance as commons
- Integrated water management in cities: the liberal vs the emancipatory view
- Social innovation and local development: cities in transition and energy cooperatives

Metodologia

The following activities will be carried out:

- a) Lectures. In some sessions we will have an invited speaker.
- b) Seminars: a brief introduction to the specific topic given by the instructor followed by the presentation of assigned readings by students, the group discussion of the main points discussed in the readings, and a final conclusion coordinated by the instructor. Students are expected to read the assigned materials; prepare and guide discussions and participate actively in the debates.
- c) Case studies: a case study or a practical exercise will be presented and the students will have to solve it.

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

Exam: take home exam at the end of the course

Practical exercises: to be solved at class.

Oral presentation: from the assigned readings.

Participation: participation at seminar debates

Activitats d'avaluació

Títol	Pes	Hores	ECTS	Resultats d'aprenentatge
Examen	60%	2	0,08	1, 2, 3, 5
Exercicis practics	15%	2	0,08	4, 5, 6
Participació a classe	10 %	0	0	4, 5
Presentació oral	15%	2	0,08	1, 2, 3, 5, 6

Bibliografia

Bibliography (Water)

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Baumann DD, Boland JJ, Hanemann WM. 1998. Urban Water Demand Management and Planning. New York: MacGraw Hill

Buzar S, Ogden PE, Hall R. 2005. Households matter: the quiet demography of urban transformation. *Progress in Human Geography* 29(4):413-36

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Prud'homme A. 2011. The Ripple Effect: The Fate of Freshwater in the Twenty-First Century. New York: Scribner

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Troy P, ed. 2008. Troubled Waters: Confronting the Water Crisis in Australian Cities. Canberra, Australian University Press

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World Economic Forum. 2011. Water Security. The Water-Food-Energy Nexus. Washington, DC: Island.

Yudelsohn J. 2010. Preventing the Next Urban Water Crisis. Gabriola Island, BC: New Society

Bibliography (Energy)

Abramsky, k. (Ed.). 2010. Sparking a Worldwide Energy Revolution: Social struggles in the transition to a post-petrol world. Edinburgh: AK Press.

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Patterson, W. 2007. Keeping the light son: towards sustainable electricity. London: Earthscan.
Perlin, J. 1999. From Space to Earth: the story of solar electricity.. AATEC Publications.
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Scheer, H. 2009. Autonomía energética. Barcelona: Icària
(A more comprehensive reading list will be distributed at the beginning of each part)