



Universitat de Lleida

DEGREE CURRICULUM
**ENVIRONMENTAL
MANAGEMENT**

Coordination: RAMOS MARTÍN, MARÍA CONCEPCIÓN

Academic year 2020-21

Subject's general information

Subject name	ENVIRONMENTAL MANAGEMENT				
Code	102569				
Semester	2nd Q(SEMESTER) CONTINUED EVALUATION				
Typology	Degree	Course	Character	Modality	
	Bachelor's Degree in Agricultural and Food Engineering	4	COMPULSORY	Attendance-based	
Course number of credits (ECTS)	6				
Type of activity, credits, and groups	Activity type	PRACAMP	PRALAB	PRAULA	TEORIA
	Number of credits	0.6	0.4	1.2	3.8
	Number of groups	1	1	1	1
Coordination	RAMOS MARTÍN, MARÍA CONCEPCIÓN				
Department	ENVIRONMENT AND SOIL SCIENCES				
Teaching load distribution between lectures and independent student work	40% classes: classroom and videoconferenes 60% personal work				
Important information on data processing	Consult this link for more information.				
Language	Catalanish:25% Spanish: 75%				
Distribution of credits	<p>1-Ecological principles applicable to environmental management. Basic concepts. Organization and functioning of natural ecosystems and agrosystems. Environmental assessment index. 0.8c</p> <p>2 -Environmental legislation. 0.2c</p> <p>3 -Physical environment. Hydrological processes. 1c.</p> <p>4- Degradation and conservation processes. 3c Soil degradation processes. Management practices and mitigation and conservation measures: physical, social, political and institutional interactions that influence management practices. Erosion and desertification. Pollution</p> <p>5 - Aquatic ecosystems: operation and management of water resources. Surface water quality. Invasive species. 0.7c</p> <p>6 -Climate change 0.5c Processes, scenarios and vulnerability. Effects of climate change on degradation processes and agricultural activity. National and international responses: mitigation and adaptation proposals</p>				

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
PALAU IBARS, ANTONIO JUAN	antoni.palau@udl.cat	1,5	
RAMOS MARTÍN, MARÍA CONCEPCIÓN	mariaconcepcion.ramos@udl.cat	4,5	

Subject's extra information

The course aims to depp on the knowledge and use of techniques of land management and planning as well as on the management of the environment and the landscape. It addresses topics of ecology applied to the management of natural ecosystems and agrosystems, and planning and landscape restoration, with special emphasis on aspects and problems that affect ecosystems such as erosion, pollution, eutrophication, invasive alien species, habitat fragmentation, and climate change.

Learning objectives

The student, to pass the course , must be able to

- Plan and defend arguments environmental management actions
- Manage basic environmental problems associated with aquatic ecosystems
- Planning conservation measures to mitigate erosion and desertification problems
- Planning conservation measures to dremediate contaminated soils
- Plan actions to decrease the effects of climate change on soil and water resources
- Manage environmental legislation

Competences

Competències generals

CB2. Students can apply their knowledge to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

CB3. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical.

CB4. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

CG7. Knowledge in basic, scientific and technological materials that enable continuous learning and an ability to adapt to new situations or changing environments.

CG8 capacity of solving problems with creativity, initiative, methodology and critical thinking.

CG11 Ability to develop their activities, assuming a social, ethical and environmental commitment in tune with the reality of human and natural environment.

Competències específiques

The graduate in Agricultural and Food Engineering specializing in Horticulture and Gardening after completing their studies will have acquired the following knowledge and skills:

Knowledge and use of the techniques of territorial planning and land management and environmental management and landscape ; environmental legislation; regional planning and landscape restoration

CEHJ4 : Knowledge of Hydrology . Erosion.

CEHJ5 : Knowledge of Physical environment and climate change.

CEHJ6 : Knowledge Analysis, Management and Spatial Plans .

Subject contents

Temari

1-Ecological principles applicable to environmental management. Basic concepts. Organization and functioning of natural ecosystems and agrosystems. Environmental assessment index. 0.8c

2 Ambient -Legislation 0.2c

3-Physical environment: degradation and conservation. Hydrological processes. 1c

4 Land degradation processes. Management practices and conservation measures.. Physical, social, and institutional interactions affecting management practices. Erosion and desertification. Contamination 3c

5 - Aquatic ecosystems: operation and management of water resources. Surface water quality. Invasive species. 0.7c

6 Climate -Change Processes, scenarios and vulnerability. Effects of climate change on degradation processes and farming. Responses at national and international level: proposals for mitigation and adaptation 0.5c

Activitats pràctiques

1- Degraded areas by erosion and conservation measures

2- Designs of conservation measures

3- Case studies of contaminated soil recuperation

4- Water quality indexes

Methodology



Type of activity	Description	Classroom activity		Personal work		Grading	Time
		Objectives	Hours	Personal work	Hours	Hours	Hours/ECTS
Lliçó magistral	Master class (Big group)	Explanation of principal concepts	36	Study, learn , understand and synthesize knowledges	40	1	77h/3.08
Exercices and case study	Participative class (Medium Group)	Problem and case solving	16	Learn to solve problems and cases	20	1	37h/1.48
Field activities	Classe participativa (Medium Group)	Understand and discuss problems and solutions in the field	5	To prepare a report	10		15h/0.60
Active learning activities	Laboratory (Medium group) and driven activities	To orient the student on the treball (in time of tutorials)		To prepare a report including informaiton taken from differnet sources and references.	20	1	21h/0.84

Observations

1 ECTS= 25h

Development plan

Type of activity	Description	Classroom activity		Personal work		Grading	Time
		Objectives	Hours	Personal work	Hours	Hours	Hours/ECTS
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Evaluation

Type of acivitiy	Grading		Weighted rating
	Procedure	Number	(%)
Master class	Written probes about the theory	3	22,5
Exercices and case study	Written reports and solved problems	3	25
Active learning activities	Report about case studies	3	52,5
Total			100

Observations

The evaluation tests will be carried out in person. In case of impossibility, the appropriate procedure will be enabled. The work deliveries will be carried out preferably through a virtual campus.

To pass the subject it must obtained a grade equal to or higher than 5 points as a cumulative result of proves an activities. It is necessary that the grage of each test be igual to or higher than 4.

Bibliography

Bibliografia bàsica

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Pierzynski, G.M., J.T. Sims & G.F. Vance. 1994. Soils and Environmental Quality. LewisPublishers. CRC Press, Boca Raton. Florida

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Bibliografia complementària

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Lal, R., Blum, W.H., Valentin, C. (Eds). 1998. Methods for assessment of soil degradation. Springer-Verlag. Berlin.

Margalef, R. (1977): "Ecología". Ed. Omega, S.A. Barcelona. 951 pp.

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Pimentel, D. (ed.) 1993. World soil erosion and conservation. Cambridge studies in applied ecology and resource management. Cambridge University Press. Cambridge.

Wanielista, M.P.1990. Hydrology and water quantity control. John Wiley and Sons Inc., NewYork, (USA).

Schwab, G.O., Fagmeier, D.D., Elliot, W.J., and Frevert, R.K. 1993. Soil and water conservation engineering. 4 ed. Wiley, New York.