SUBJECT TEACHING GUIDE

M538 - Ecology

Master's Degree in Environmental Engineering

Academic year 2017-2018

1. IDENTIFYING DATA					
Degree	Master's Degree in Environmental Engineering			Type and Year	Compulsory. Year 1
Faculty	School of civil Engineering				
Discipline	Common Levelling Subjects				
Course unit title and code	M538 - Ecology				
Number of ECTS credits allocated	4,5	Term		Semester based	
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. CIENCIAS Y TECNICAS DEL AGUA Y DEL MEDIO AMBIENTE
Name of lecturer	XABIER EDUARDO MORENO-VENTAS BRAVO
E-mail	xabier.moreno@unican.es
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 2. DESPACHO (2015)
Other lecturers	MARIA LUISA PEREZ GARCIA

3.1 LEARNING OUTCOMES
- To identify, understanding and using the concepts and terms of ecological theory
- Using of basic techniques of broad ecological methodology within the context of the scientific method
- To analyze the structure and function of ecosystems
- Being able to assess the condition of natural systems.
- To identify, to develop and to explore alternatives and provide the results in solving environmental problems by studying the main natural resources and human impact on ecosystems

4. OBJECTIVES

To shout the students a comprehensive, dynamic and current view of this science.

6. COURSE ORGANIZATION

CONTENTS	
1	ECOLOGY IN ENVIRONMENTAL ENGINEERING.
2	ECOLOGICAL FACTORS
3	POPULATION AND META-POPULATION
4	COMMUNITIES
5	ECOSYSTEM
6	PRACTICES
7	SELF-REGULATION OF ECOSYSTEM
8	ENERGY FLOW
9	FLOW OF MATTER
10	ECOSYSTEM ORGANIZATION
11	CONSERVATION BIOLOGY
12	ENDANGERED SPECIES
13	CONSERVATION IN SITU - EX SITU
14	EXPOSURE ASSESSMENT AND WORKING PRACTICES

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Essay questions and other concrete. Troubleshooting.	Written exam	No	Yes	60,00
Written tabling and laboratory practices and results.	Work	No	Yes	40,00
TOTAL				100,00

Observations

Laboratory practices will be passed by evaluating class attendance, written presentation y exposition and exhibiton of the obtained results in the laboratory tests performed.
In case of lack of attendance to laboratory practices, or failure, the student could pass them by examination.
Students will have to re-take only those parts of the subject failed, (qualification lower than 5 points), not being able to re-take any part previously passed (higher than 5 points).
Related to the adopted agreements about evaluation activities of recoverable characteristics at the regular meeting of the School Board held on June 10, 2010, it is established (with respect to evaluation activities having the character of recoverable) that:
As a general criterion, unless this guide says otherwise, a student could only attend to the retake of those subjects that have been not passed, ie, those with a qualification lower than 5 out of 10.
As a general criterion, unless this guide says otherwise, during the recovery period the assessment procedure of any activity shall be the same as the activity that originates it.
Note: According to the Royal Decree RD 1125/2003 about the European Credit System and the official University qualifications´ grading system, the students´ results in each subject of the studies plan will be graded according to the following numerical scale from 0 to 10, with one decimal, which may be added corresponding qualitative rating:
0.0 to 4.9: Suspense (SS). 5.0 to 6.9: Approved (AP). 7.0 to 8.9: Notable (NT). 9.0 to 10: Outstanding (SB).

Observations for part-time students

Students a part-time will be subject of a evaluation process that will involve the establishment of a single examination about the subject taught (60% final score), laboratory practices attendance and deliver of the practices report (40% final score).

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Margalef, R. 1982. Ecología. Ed. Omega

Molles, MC. 1999. Ecología. Ed Piramide

Ricklefs, RE. 1998. Invitación a la Ecología. Ed Panamericana

Rodríguez, J. 1999. Ecología. Ed. Piramide

Smith, RL. y TS. Smith. 2000. Ecología. Ed Addison Wesley

Odum. 1973. Ecología. Interamericana

Simmons.1982. Ecología de los recursos naturales. Omega

Acevedo, MF, y Raventos, J. 2003. Dinámica y manejo de poblaciones: modelos unidimensionales. Publicaciones de la Universidad de Alicante

Beeby, A. & A.M. Brennan. 2004. First Ecology. ed Oxford

Begon, M. 1994. Ecología. Individuos, poblaciones y comunidades. Begon, M., JL. Harper y CR. Townsend (edds). Ed. Omega

Dajoz, R. 2002. Tratado de Ecología. Ed Mundi-Prensa