COURSE DESCRIPTION

COURSE DETAILS

Title (of the course): **GEOBOTÁNICA**
Code: 100432
Degree/Master: **GRADO DE BIOLOGÍA** Year: 4
Field: OPTATIVA
Character: OPTATIVA Duration: SECOND TERM
ECTS Credits: 6.0 Classroom hours: 60
Face-to-face classroom percentage: 40.0% Study hours: 90
Online platform: https://moodle.uco.es

LECTURER INFORMATION

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PREREQUISITES AND RECOMMENDATIONS

Prerequisites established in the study plan

Those indicated for the module: The student will be able to matriculate in subjects of this Module once they have passed 60 credits of basic training, and at least another 60 compulsory credits. It is also needed be in possession of the B1 level accreditation in English.

Recommendations

None specified

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INTENDED LEARNING OUTCOMES

CE81n	Interpret different operational responses relating to particular environments.
CB4v5	Capable of critically anaylsing and synthesising, in line with the scientific method.
CB14v1	Ethical commitment to environmental and social issues.
CB16v1	Ability to organise and plan.
CB17v1	Knowledge of applied IT in Biology
CB18v4	Abiltity to put theory into practice.
CE13v4	Development of the skills to identify characteristics of mediterranean vegitation
CE13v5	Development of the skills to show, characterise and manage populations and plant communities.
CE82n	An understanding of Biology´s fundamental concepts

OBJECTIVES

The main goal is to introduce the students in the knowledge of vegetation, presenting as fundamental parameters: a) variations among different types of vegetation; b) causes of these variations; c) biogeographical prospect of these variations

CONTENT

1. Theory contents

Block 1. Introduction

1. Case study: studies on chorology, ecology, sociology and paleobotany of three forestry species in Central[1] Europe: Fagus sylvatica, Quercus robur and Pinus sylvestris. Definition and parts of the Geobotany.

Block 2. Phytogeography (Floristic Geobotany)

2. Geographic Ranges. Criteria to differentiate ranges. Cosmopolitan and Endemic geographic range. Origin and type of Endemism. Patterns of endemism.

3. Principles of discontinuity. Disjunction. Vicariance. Colonization density.

4. Evolution of the Geographical Range; diffusion. Biotic exchange and dispersion routes.

5. Floristic division of Biosphere. Geoelements or Floristic Elements. Criteria for delimitation of floristic units. Link taxa.

6. Holarctic Kingdom. Subkingdom Tetiano. Mediterranean Region. Biogeography in Spain.

7. Bioclimatology. Vegetation Regions. Vegetation Belts. Bioclimatic Belts.

Block 3. Geobotany and Phytosociology

8. Structure of the vegetation. Concepts. Criteria and Classification Systems. Structural Units and Structural Systems.

9. Floristic Units and Floristic Systems. I Methodology on Phytosociology. II Multivariate Methods.

10. Floristic Units and Floristic Systems. II Multivariate Methods. Ordination and Classification

11. Vegetation Dynamic. Daily and Seasonal Vegetation Dynamic, Phenology. Long Term Vegetation Dynamic, Succesion. Succession types. Succession Units and Vegetation Series.

12. Climax definition. Actual, Potential and Primitive vegetation. Natural, Seminatural and Cultivated vegetation.

13. The concept of the plant community: a first approach; limiting environmental factors; the plant intrinsic properties. Plant community definition. The nature of the vegetation.

Block 4. Vegetation of the Iberian Peninsula.

14. Forests in the plant landscape of the Iberian Peninsula.

15. Changes in Forests by human actions.

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2. Practical contents

1) Hypothesis and experimental design in biogeographic and vegetation studies
2) Sampling methods: a) Phytosociological inventories b) Transects c) Quadrants
3) Statistical analysis of vegetation data
4) Vegetation mapping
5) Visits and practical study of plant communities in the Mediterranean region

SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Quality education
Climate action
Life on land

METHODOLOGY

General clarifications on the methodology (optional)

The excursions and visits will be conditioned to the reservation of schedules for them in the academic schedules. If the reservation is not made from the coordination of the degree, they will be replaced by computer data analysis practices and tutorials to carry out the evaluation work.

Methodological adaptations for part-time students and students with disabilities and special educational needs

Part-time students and / or students with special needs should contact the teachers of the subject in the first two weeks of class for planning the necessary adaptations in the teaching methodology

Face-to-face activities

Activity	Large group	Medium group	Total
Assessment activities	5	-	5
Excursions	-	18	18
Lectures	28	-	28
Workshop	-	9	9
Total hours:	***33***	***27***	***60***

Off-site activities

Activity	Total
Group work	30
Self-study	60
Total hours	***90***

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WORK MATERIALS FOR STUDENTS

Dossier
Placement booklet

Clarifications

The dossier of documentation will include the presentations used in the theoretical teaching of the subject, as well as any documents or articles that are considered convenient for a better understanding or knowledge of the theoretical or practical contents. All this material, together with the practical notebook will be available in the virtual classroom (Moodle). The rest of the material will be facilitated by the teachers at all times for the proper performance of teaching. The field sampling material will also be available to students for their field working groups

EVALUATION

Intended learning	Case study/clinical case discussion/scientific work discussion	Exams	Project
CB14v1	X		
CB16v1	X		
CB17v1	X		
CB18v4	X		X
CB4v5			X
CE13v4	X	X	
CE13v5	X		X
CE81n	X	X	
CE82n	X	X	X
Total (100%)	***25%***	***50%***	***25%***
Minimum grade	***5***	***5***	***5***

(*)Minimum mark (out of 10) needed for the assessment tool to be weighted in the course final mark. In any case, final mark must be 5,0 or higher to pass the course.

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Attendance will be assessed?:

No

General clarifications on instruments for evaluation:

Minimum grade to eliminate subject and period of validity of partial grades: All evaluation activities will eliminate subject with a grade equal to or greater than 5 points, being valid until the second call of the same academic year.

The practical lessons will be evaluated from 0 to 10. For evaluation, will be taken into account the lessons both, in field and computer sessions, as well as the teacher proposed exercises and the autonomous work by part of the student body

Clarifications on the methodology for part-time students and students with disabilities and special educational needs:

Part-time students and / or students with special needs should contact the teachers of the subject in the first two weeks of class to agree on the necessary adaptations in the evaluation criteria

Clarifications on the evaluation of the extraordinary call and extra-ordinary call for completion studies:

In the extraordinary calls, the students will be examined for the theory exam and, optionally, they will be able to resubmit the practical evaluation works. In case of not presenting them and in an exceptional way, the qualifications that they would have obtained in these activities in previous calls will be used.

Qualifying criteria for obtaining honors:

The same criteria in the regulations of the University of Cordoba will be used

BIBLIOGRAPHY

1. Basic Bibliography

Begon Harper & Townsend 1990. Ecology. Individuals, Populations and Communities. Blacwell Scientific. Publications.

Braun Blanquet J. 1979. Fitosociología. Bases para el estudio de las comunidades vegetales. H. Blume Ediciones.

Brown JH & Lomolino .V. 1998. Biogeography, 2ª edi. Sinauer Associates, Inc. Publishers, Sunderlan. Massachusetts

Géhu JM & Rivas-Martínez S. 1980. Notions fondamentales de Phytosociologie. H. Dierschcke (ed.) Ver.Intern. Symposien del IVV. Syntaxonomie: 5-33. Rinteln.

Gleason HA & Cronquist A. 1964. The natural geography of plants. Columbia University Press. New York.

Good R. 1974. The Geography of the Flowering Plants. Longman.

Carrión JS. 2003. Evolución Vegetal. DM, Murcia Carrión JS. Munuera Giner M, Navarro Camacho C, Sáez Soto F. 2000. Paleoclimas de la vegetacion cuaternaria en España a través del análisis Costa

M, Morla C, Sainz H. (eds.) 1997. Los bosques ibéricos. Una interpretación geobotánica. Ed. Planeta. Barcelona.

Kent M, Coker P. 1992. Vegetation description and analysis. A practical approach. Belhaven Press. London.

Küchler AW. 1969. Natural and cultural vegetation. The Professional Geographer 21: 383-385.

Küchler AW. 1988. Vegetation Mapping. Loidi J. (Ed.) 2017. The vegetation in the Iberian Peninsula. Springer

Lomolino MV, Sax DV, Brown JH. 2004. Foundations of Biogeography. University Chicago Press.

Lomolino MV, Riddle BR, Whittaker RJ. 2017. Biogeography: Biological Diversity across Space and Time. Sinauer Associates, Inc. Publishers, Sunderlan, Massachusetts

Moore DM. (ed.) 1982. Green Planet. The story of Plant Life on Earth. Cambridge University Press. Cambridge. 1

Mueller-Dombois D, Ellenberg H 1974. Aims and methods of vegetation ecology. Wiley International Edition Plant

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Communities of Spain and Portugal, Addenda to the Syntaxonomical Checklist of 2001. Itinera Geobotanica 15.
Navarro C, SáezF, Munuera M, Carrión García J. Paleoclimas e historia de la vegetación cuaternaria en España través del análisis polínico. Viejas falacias y nuevos paradigmas. Complutum, 11: 115-142
Rivas-Martínez S. 1987. Memoria del Mapa de Series de Vegetación de España. ICONA. Madrid.
Rivas-Martínez S, Díaz TE, Fernández González F, Izco J, Loidi J, Lousa M, Penas A. 2002. Vascular Schulze ED, Beck E, Müller-Hohenstein K. 2002. Plant Ecology. Springer-Verlag,
Heidelberg Strasburger. 2004. Tratado de Botánica, 35ª edición. Ed. Omega, Barcelona
Takhtajan A. 1986. Floristic regions of the world. University of California Press. BerkeleyBegon Harper & Townsend 1990. Ecology. Individuals, Populations and Communities. Blacwell Scientific. Publications

2. Further reading

None

COORDINATION CRITERIA

Common evaluation criteria
Common learning outcomes
Tasks deadlines
Visits organization

SCHEDULE

Period	Assessment activities	Excursions	Lectures	Workshop
1# Week	0,0	3,0	2,0	0,0
2# Week	0,0	3,0	2,0	0,0
3# Week	0,0	3,0	2,0	0,0
4# Week	0,0	0,0	2,0	3,0
5# Week	0,0	0,0	2,0	3,0
6# Week	0,0	0,0	2,0	3,0
7# Week	0,0	0,0	2,0	0,0
8# Week	0,0	3,0	2,0	0,0
9# Week	0,0	0,0	2,0	0,0
10# Week	0,0	0,0	2,0	0,0
11# Week	0,0	3,0	2,0	0,0
12# Week	0,0	3,0	2,0	0,0
13# Week	0,0	0,0	2,0	0,0
14# Week	5,0	0,0	2,0	0,0
Total hours:	***5,0***	***18,0***	***28,0***	***9,0***

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The methodological strategies and the evaluation system contemplated in this Course Description will be adapted according to the needs presented by students with disabilities and special educational needs in the cases that are required.