COURSE DESCRIPTION

COURSE DETAILS

Title (of the course): **BASES BOTÁNICAS PARA LA GESTIÓN DEL MEDIOAMBIENTE**
Code: 101539
Degree/Master: **GRADO DE CIENCIAS AMBIENTALES** Year: 2
Name of the module to which it belongs: CONSERVACIÓN, PLANIFICACIÓN Y GESTIÓN DEL MEDIO RURAL Y URBANO
Field: ORDENACIÓN DEL TERRITORIO Y GESTIÓN DEL MEDIO AMBIENTE
Character: OBLIGATORIA Duration: SECOND TERM
ECTS Credits: 6.0 Classroom hours: 60
Face-to-face classroom percentage: 40.0% Study hours: 90
Online platform: http://moodle.uco.es/moodlemap/

LECTURER INFORMATION

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PREREQUISITES AND RECOMMENDATIONS

Prerequisites established in the study plan

English certificate B1

Recommendations

English certificate B2

INTENDED LEARNING OUTCOMES

CB5	Capable of integrating the experimental evidence found in field and/or laboratory studies with theoretical knowledge.
CE11	Capable of interpreting the biodiversity of the natural environment, the structure, physiology and features of living organisms and the concepts of evolution, taxonomy and development.
CE13	Capable of identifying animal and plant species as part of the natural resources of our country, and their adaptation and conservation.
CE23	Be able to elaborate, manage and implement environmental plans and/or projects.

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OBJECTIVES

1.- To learn a basic knowledge on Botany by integrating theoretical and practical lessons in the laboratory and at the field.
2.- To be able to identify vegetal organisms by using dicotomical keys.
3.- To know ad to understand the plant biodiversity.
4.- To apply the botanical knowledge into their the future environmental projects

CONTENT

1. Theory contents

Topic 1.- Fungi. Vegetative and reproductive characteristics.Main groups. Ecology.Lichens
Topic 2.- Algae. Vegetative and reproductive characteristics. Main groups. Ecology.
Topic 3.- Bryophytes. Vegetative and reproductive characteristics. Main groups. Ecology.
Topic 4.- The first vascular plants: Pteridophytes (ferns): Main characteristics and groups. Ecology.
Topic 5.- Spermatophytes. Gymnosperms. Main characteristics and groups. Reproductive structures.
Topic 6.- Cormophytes. The "cormo" concept. Morphology and structure of the standard cormo.
Topic 7.- Adaptative strategies of the vascular plants. Raunkiaer plant life-form and biological spectra.
Topic 8. Sistematic and Taxonomy. Organization levels. Main reproduction types in plants. Botany applications.
Topic 9.- Angiosperms.Main characteristics and groups. Reproductive structures. The flower and the fruit. Polinization. Dispersion mechanisms of fruits.
Topic 10.- Angiosperms' clasification. Monocotyledoneae. Main families: general characteristics, representative examples and distribution.
Topic 11.- Dicotyledoneae. Main families: general characteristics, representative examples and distribution. Topic 12.- Distribution areas. Corology. Cosmopolitan areas and endemisms. Threatened flora and conservation strategies:Botaical Garden. Biogeographical regions.
Topic 13.- Biogeographical regions and plant populations with a enviromental interest in Spain. The mediterranean forest and "dehesas" . Conifers. River forest. Mountain vegetation. Agroforest systems.

2. Practical contents

Laboratory:
1.-Talophytes and Fungi.
2 - Bryophytes and Ferns.
3.- Gimnosperms and visit to the University Forest.
4 to 8.-Angiosperms.
Field practical lessons:
9 y 10.- Sierra Morena.
11.- Botanical Garden of Córdoba.

SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Good health and well-being
Quality education
Clean water and sanitation
Climate action
Life below water
Life on land

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METHODOLOGY

General clarifications on the methodology (optional)

The students will provided with the guides and keys to follow the classes. There are interactive guides for identification designed by the teacher and available on the Moodle page. All the material they will be facilitated through the moodle page

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

The field practices that will be optional for both students. They can chose the group of practices that better fit with their necessities. For students with special educational needs the teacher will meet with the pupils affected to establish the most appropriate adaptations for each particular case, following the indications of the report issued by the Inclusive Education Unit.

Face-to-face activities

Activity	Large group	Medium group	Total
Assessment activities	3	2	5
Excursions	-	9	9
Lab practice	-	16	16
Lectures	30	-	30
Total hours:	***33***	***27***	***60***

Off-site activities

Activity	Total
Exercises	20
Information search	5
Reference search	5
Self-study	60
Total hours	***90***

WORK MATERIALS FOR STUDENTS

Case studies
Coursebook
Dossier
Exercises and activities
Oral presentations
Placement booklet
References

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EVALUATION

Intended learning	Exams	Project	Real and/or simulated tasks
CB5	X	X	X
CE11	X	X	X
CE13	X	X	X
CE23			X
Total (100%)	***70%***	***10%***	***20%***
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.

Attendance will be assessed?:

No

General clarifications on instruments for evaluation:

General clarifications on instruments for evaluation: theoretical exam 60%, practical exam 20%, herbarium 10%, oral presentation 10%.
The practical exam will be a "de visu" exam of plants. Students can use the botanical keys used in the lessons.
The Herbarium will be evaluated regarding quality of sistematic determination and presentation. Some questions will be made about the way of elaboration and the plants included.

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

Clarifications on the methodology for part-time students and students with disabilities and special educational needs: General clarifications on evaluation and methodological adaptation for part-time students: Methodological adaptations for part-time students will be decided in meetings between the teaching staff and the students concerned in order to personalise the possible cases that may arise.

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

Theoretical exam 60%, practical exam 20%, herbarium 10%, oral presentation 10%.
Marks of the diferent parts will be saved for next courses.

Qualifying criteria for obtaining honors:

The criteria will be those proposed by the UCO regulation. Minimum mark: 9.

COURSE DESCRIPTION

BIBLIOGRAPHY

1. Basic Bibliography

Devesa y Carrión (2012). Las plantas con flor. Apuntes sobre su origen, clasificación y diversidad. Publicaciones Universidad de Córdoba.
Font-Quer (2009).Diccionario de Botánica. Ed. Península.
Izco, Barreno, Brugués, Costa, Devesa, Fernández, Gallardo, Llimona, Salvo, Talavera y Valdés (2004). Botánica . Ed. McGraw-Hill- Interamericana.
Lüttge, Kluge & Bauer (1993). Botánica. Ed. Interamericana McGraw-Hill. Nabors, M. (2006). Introducción a la Botánica. Ed. Addison-Wesley.
Pineda, de Miguel, Casado y Montalvo editores (2002). La Diversidad Biológica de España. Ed. Prentice Hall-Pearson Education.
Raven, Evert & Eichhorn (1992). Biología de las Plantas. Vol. 1 y 2. Ed. Reverté.
PRACTICAS
Aira, M.J., Vázquez, R.A. & Izco, J. (2014) Manual de prácticas de Botánica. Laboratorio y campo. USC Editora. Cabeza (2010). Morfología vegetal. Ed. Universitas. García-Guardia (1988). Flora Silvestre de Andalucía. Ed. Moreno, Jiménez, Gómez e Infante (1996). Setas de Andalucía. Con especial referencia a sus parques naturales.Ed. Centro Andaluz del Libro. Salvo (1990). Guia de Helechos. Ed. Pirámide. Valdés, Talavera y Fernández-Galiano editores (1987). Flora Vascular de Andalucía Occidental. Ed. Ketres Wirth, V. & Düll, R. (2004) Guía de Campo de Líquenes, Musgos y Hepáticas. Ed. Omega

2. Further reading

Blanca (2001). Flora amenazada endémica de Sierra Nevada. Conserjeria de Medio Ambiente Junta de Andalucía. http://ahim.files.wordpress.com/2009/08/flora_amenazada_endemica_sierra_nevada_2001.pdf Blanca, Cabezudo, Hernández-Bermejo, Herrera, Muñoz y Valdés (2000). Libro Rojo de la Flora Silvestre. Amenazada de Andalucía. Consejería de Medio Ambiente. Junta de Andalucía.
Bañares, Blanca, Güemes, Moreno y Ortiz (2004). Atlas y Libro Rojo de la Flora Vascular Amenazada de España. Ministerio de Medio Ambiente.
Delibes de Castro (2001). La Naturaleza en Peligro. Ed. Temas de Hoy. Pascual (2001). La Vida Amenazada: Cuestiones Sobre La Biodiversidad. Ed.Nivela.
Schulze & Mooney editores (1994). Biodiversity And Ecosystem Function. Ed. Springer-Verlag.

COORDINATION CRITERIA

Joint activities: lectures, seminars, visits ...

SCHEDULE

Period	Assessment activities	Excursions	Lab practice	Lectures
1# Fortnight	0,0	0,0	0,0	4,0
2# Fortnight	0,0	0,0	2,0	4,0

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Period	Assessment activities	Excursions	Lab practice	Lectures
3# Fortnight	2,0	0,0	2,0	4,0
4# Fortnight	0,0	3,0	2,0	4,0
5# Fortnight	0,0	3,0	2,0	4,0
6# Fortnight	0,0	3,0	2,0	4,0
7# Fortnight	0,0	0,0	4,0	3,0
8# Fortnight	3,0	0,0	2,0	3,0
Total hours:	***5,0***	***9,0***	***16,0***	***30,0***

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.