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 B2

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.

COURSE DESCRIPTION

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

1. Theory contents, Theoretical 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.

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

COURSE DESCRIPTION

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

The same rules than to the rest of the students will be applied, except the field practices that will be optional

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

EVALUATION

Intended learnig	Exams	Project	Real and/or simulated tasks
CB5	X	X	X
CE11	X	X	X

COURSE DESCRIPTION

Intended learnig	Exams	Project	Real and/or simulated tasks
CE13	X	X	X
CE23			X
Total (100%)	***70%***	***10%***	***20%***
Minimum grade	***5***	***5***	***5***

(*)Minimum grade necessary to pass the course

¿Valora la asistencia?:

No

General clarifications on instruments for evaluation:

General clarifications on instruments for evaluation: theoretical exam 60%, practical exam 20%, herbarium 10%, oral presentation 10%

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: The same conditions.

Qualifying criteria for obtaining honors:

Los establecidos por la normativa de la UCO. Nota mínima 9

BIBLIOGRAPHY

1. Basic Bibliography

1. Bibliografía básica:
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. Rueda.
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

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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

Bibliografía complementaria 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. http://www.mma.es/secciones/biodiversidad/inventarios/inb/flora_vascular/pdf/c.pdf 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. http://www.juntadeandalucia.es/medioambiente/

COORDINATION CRITERIA

Joint activities: lectures, seminars, visits ...

SCHEDULE

Period	Assessment activities	Excursions	Lab practice	Lectures
1# Fortnight	0,0	0,0	2,0	4,0
2# Fortnight	0,0	0,0	4,0	4,0
3# Fortnight	2,0	0,0	4,0	6,0
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	3,0	0,0	0,0	4,0
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.

CONTINGENCY PLAN: CASE SCENARIO A

Case scenario A will correspond to a diminished on-site academic activity due to social distancing measures affecting the permitted capacity of classrooms.

COURSE DESCRIPTION

METHODOLOGY

General clarifications on the methodology on case scenario A

A multimodal (hybrid) teaching system will be adopted, combining both on-site and remote classes via videoconference (synchronous) that will be held in the timetable approved by the corresponding Faculty or School. The time distribution of teaching activities (both on-site and remote) will be decided by the aforementioned Faculties and Schools bearing in mind the permitted capacity of classrooms and social distancing measures as established at that time.

The theoretical content is worked on during large group sessions, in the form of classroom lectures or by videoconference.

The practical contents complement the theory and are worked during the medium group sessions in the laboratory and on field trips. If these exits were not possible, they would be replaced by laboratory practices.

The students will receive the scripts for the practices and the material to follow the classes. There are already interactive guides for identification prepared by the teachers of the subject. All the material will be provided through the subject's moodle.

The non-presential part of the subject will be based on the autonomous work of the students, both through the study for the final exam (60%) and continuous assessment identification tests (20%), and in the project-type preparation, which will be a personal herbal (10%). This herbarium may be virtual in case that field trips cannot be made for health reasons. Also the realization and correct follow-up of the practices (10%), face-to-face or virtual according to circumstances, will count towards the global mark.

EVALUATION

Intended learnig	Exams	Laboratory Practice	Project	Real and/or simulated tasks
CB5	X	X	X	X
CE11	X	X	X	X
CE13	X	X	X	X
CE23				X
Total (100%)	***60%***	***10%***	***10%***	***20%***
Minimum grade	***4***	***4***	***4***	***4***

(*)Minimum grade necessary to pass the course

Attendance will be assessed (Scenario A)?:

No

General clarifications on instruments for evaluation (Scenario A):

General clarifications on instruments for evaluation: theoretical exam 60%, simulated or real identification tasks 20%, virtual herbarium 10%, correct realization of practices 10%

COURSE DESCRIPTION

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

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: The same conditions.

Qualifying criteria for obtaining honors (Scenario A):

Los establecidos por la normativa de la UCO. Nota mínima 9

CONTINGENCY PLAN: CASE SCENARIO B

Case scenario B will bring about a suspension of all on-site academic activities as a consequence of heath measures.

METHODOLOGY

General clarifications on the methodology on case scenario B

On-site teaching activities will be held via videoconference (synchronous) in the timetable approved by the corresponding Faculty or School. Alternative activities will be proposed for reduced groups in order to guarantee the acquisition of course competences.

In this scenario, the teachers will provide material via Moodle (presentations, readings, videos, etc.) to the students so that they work autonomously before the magisterial and practical sessions. The videoconference sessions will be devoted to the development of master classes and virtual practices of plant identification. They will also dedicate themselves to reviewing the most complex concepts and clarifying and solving the doubts that students raise about the previously distributed content.

The tutorials that the students propose, either individual or collective, will also be developed through videoconferences.

The practical contents complement the theory and are worked during the medium group sessions through videoconferences where the teacher will develop and explain the different identification techniques, including virtual ones, with the support of multimedia keys. Students will have both multimedia identification keys developed by the teachers of the subject, as well as other identification tools and apps currently available. The correct performance of the practices will be taken into account as part of the evaluation elements.

The non-presential part of the subject is based on the autonomous work of the students in the form of study and work on the theory materials provided by the teaching staff, as well as on the study and preparation for the botanical identification tests for continuous evaluation. and the elaboration of a virtual herbarium.

COURSE DESCRIPTION

EVALUATION

Intended learnig	Exams	Laboratory Practice	Project	Real and/or simulated tasks
CB5	X	X	X	X
CE11	X	X	X	X
CE13	X	X	X	X
CE23				X
Total (100%)	***60%***	***10%***	***10%***	***20%***
Minimum grade	***4***	***4***	***4***	***4***

(*)Minimum grade necessary to pass the course

Moodle Tools	Exámenes	Proyecto	Pruebas de ejecución de tareas reales y/o simuladas	Prácticas de laboratorio
Participación		X	X	X
Tarea	X	X	X	X

Attendance will be assessed (Scenario B)?:

No

General clarifications on instruments for evaluation (Scenario B):

General clarifications on instruments for evaluation: theoretical exam 60%, simulated identification tasks 20%, virtual herbarium 10%, correct realization of practices 10%

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

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: The same conditions.

Qualifying criteria for obtaining honors (Scenario B):

Los establecidos por la normativa de la UCO. Nota mínima 9