



UNIVERSIDAD DE CORDOBA

FACULTAD DE CIENCIAS
GRADO EN BIOLOGÍA
2024/25 YEAR
BOTÁNICA II



Course details

Course name: BOTÁNICA II**Code:** 658016**Degree/Master:** GRADO EN BIOLOGÍA**Year:** 2**Field:****Character:** OBLIGATORIA**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/>

Coordinating teacher

Name: NIETO LUGILDE, DIEGO**Department:** BOTÁNICA, ECOLOGÍA Y FISIOLOGÍA VEGETAL**Office location:** Edificio Celestino Mutis (C4). Planta 3**E-Mail:** bv2nilud@uco.es**Phone:** 957218632

Brief description of the contents

The subject deals with the study of vascular plants, working contents related to their general characteristics (biochemical, morphological and/or physiological), diversity, taxonomy, systematics and evolution. We also study their importance at an ecological level, their importance for human beings (e.g. traditional and/or industrial uses), and the main environmental problems related to each group (e.g. management, conservation, restoration, etcetera).

Prerequisites

Prerequisites established in the study plan

To take this subject, it is an essential requirement to have accredited the minimum level of English B1.

Recommendations

None

Study programme

1. Theory contents

CORMOPHYTES

- Cormophytes: vascular plants. The typical corm: root, stem, leaves. Buds.
- Metamorphosis of the corm. Adaptations of vascular plants to limiting factors: water, temperature, light, nutrition.

- The first vascular plants: General characteristics and examples. Main groups.

CORMOPHYTES WITH SPORES (PTERIDOPHYTES)

- General characteristics and examples. Ecology.

CORMOPHYTES WITH SEED (SPERMATOPHYTES)

- Spermatophytes: plants with seeds. General characteristics. Lifecycle.
- Microsporangia. Microsporogenesis. Microspores: the pollen grain. Microgametogenesis. Microgametophyte.
- Megasporangia. Macrosporogenesis. Macrospores. Megagametogenesis. Megagametophyte: the embryonic sac.
- Pollination. Form and function of floral structures linked to pollination. Pollen grain germination. Fertilization. Seed formation. Classification.

GYMNOSPERMIC SPERMATOPHYTES

- Gymnospermic spermatophytes. General characteristics. Main groups.
- Conifers. Main characteristics and most representative examples. Geographical distribution.

ANGIOSPERMIC SPERMATOPHYTES

- Angiospermic spermatophytes. General characteristics. The flower: characteristics. Floral diagrams and formulas. Inflorescences.
- The fruit. Types of fruit. Dispersion. Classification of Angiosperms.
- Basal Angiosperms. General characteristics, classification and representative examples. Mention of the Order Amborelales. Distribution.
- Monocotyledons. General characteristics, classification and representative examples.
- Poales Order. General characteristics and examples. Distribution.
- The Eudicotyledons. Main characteristics, classification and representative examples.
- Fabales and Rosales Orders. General characteristics and examples. Distribution.
- Fagales and Brassicales Orders. General characteristics and examples. Distribution.
- Asteral Order. General characteristics and examples. Distribution.

PLANT DIVERSITY

- The Flora of the Iberian Peninsula

2. Practical contents

- 1-7. Cormophytes: Species identification.
8. Fieldtrip.
9. Fieldtrip.

Bibliography

- Devesa et Carrión (2017). Las plantas con flor. Apuntes sobre su origen, clasificación y diversidad. Edición 2 (ebook). Servicio de Publicaciones de la Universidad de Córdoba.
- Devesa et Carrión (2012). Las plantas con flor. Apuntes sobre su origen, clasificación y diversidad. Edición 1. Servicio de Publicaciones de la Universidad de Córdoba.
- Izco, Barreno, Brugués, Costa, Devesa, Fernández, Gallardo, Llimona, Prada, Talavera, & Valdés (2004). Botánica. McGraw-Hill. Interamericana.
- Lüttge, Kluge & Bauer (1993). Botánica. Ed. Interamericana. McGraw-Hill.
- Scagel et al. (1987). El reino Vegetal. Ed. Omega.
- Strasburger et al. (2004). Tratado de Botánica. Ed. Omega.
- Raven, Evert & Eichhorn (1991-92). Biología de las Plantas. Vol. 1 & 2. Ed. Reverté.
- Nabors (2004). Introducción a la Botánica. Ed. Pearson.
- Valdés et al. (1987). Flora Vascular de Andalucía Occidental. Ed. Ketres.
- Blanca et al. (2009). Flora Vascular de Andalucía Oriental. Consejería de Medio Ambiente, Junta de Andalucía.

Methodology

General clarifications on the methodology (optional)

The theoretical contents are worked on during large group sessions. The practical contents are worked on during medium group sessions in the laboratory and on field trips.

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

All students, whether part-time or not, will be evaluated in the same way. The specific needs of students (following instructions from the report issued by the Inclusive Education Unit) with special needs will be taken into account to ensure that they can access and fully carry out the different evaluation activities.

Part-time students, repeaters and/or with special educational needs must contact the teacher of their theory group in the first week of the course to agree and personalize the teaching methodology and evaluation.

Face-to-face activities

Activity	Large group	Medium group	Total
<i>Assessment activities</i>	3	-	3
<i>Field trips</i>	-	10	10
<i>Practical experimentation activities</i>	-	17	17
<i>Projects based on the course contents</i>	30	-	30
Total hours:	33	27	60

Off-site activities

Activity	Total
<i>Information processing activities</i>	73
<i>Information search activities</i>	17
Total hours	90

Results of the training and learning process**Knowledge, competencies and skills**

- C09 Recognizes different levels of organization in living systems.
- C13 Understanding the evolutionary progression in the diversity of living things.
- C15 Know the characteristics, structure and metabolism of microorganisms, as well as their physiological and taxonomic diversity through different methods of observation, cultivation and conservation.
- COM06 Develop interest, responsibility and an ethical commitment to addressing the problems of environmental conservation and respect for natural heritage.
- COM09 Evaluate the environmental and social aspects of different groups of living beings.
- COM19 Contribute to the achievement of the Sustainable Development Goals
- HD03 Use basic instruments for biological experimentation in the different fields, applying protocols and regulations specific to the field of the experimentation.
- HD06 Capably use sources of scientific information and useful resources for biological study and research.
- HD08 Obtain information through the critical observation of living beings, their functional processes, and the interactions established between them.
- HD10 Is capable in the techniques of photography and/or the collection, sampling, preparation, identification and conservation of plant, fungal and animal material. Population parameters.

Assessment methods and instruments

Intended learning outcomes	Examination	Means of practical execution	Students assignments
<i>C09</i>	X	X	X
<i>C13</i>	X		
<i>C15</i>	X		
<i>COM06</i>	X	X	X
<i>COM09</i>	X		

Intended learning outcomes	Examination	Means of practical execution	Students assignments
COM19	X	X	X
HD03		X	X
HD06	X	X	
HD08		X	X
HD10	X	X	X
Total (100%)	50%	30%	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.

General clarifications on instruments for evaluation:

Three evaluation criteria are used: Theory exams, identification test (laboratory practices), recognition test (real and/or simulated task execution tests).

Theory exams (Examination): An exam is carried out on the theoretical contents of the subject at the end of the course. It is necessary to obtain at least a 5 in this exam to be able to calculate the final average for the subject.

Identification test (Means of practical execution): A final test will be carried out to identify plant organisms, it being necessary to obtain at least a 5 in this test to be able to calculate the final average for the subject.

Recognition test (Students assignments): A final recognition test (visu) of plant organisms will be carried out, it being necessary to obtain at least a 5 in this test to be able to calculate the final average for the subject.

Students who do not pass any of the evaluation tests must take the exam in one of the following official calls (2nd call and/or extraordinary call). All grades obtained in the course will be valid only during the current academic year, and no grade will be saved for calls for future courses.

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

All students, whether part-time or not, will be evaluated in the same way. The specific needs of students (following instructions from the report issued by the Inclusive Education Unit) with special needs will be taken into account to ensure that they can access and fully carry out the different evaluation activities.

Part-time students, repeaters and/or with special educational needs must contact the teacher of their theory group in the first week of the course to agree and personalize the teaching methodology and evaluation.

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

The extraordinary calls (including the completion of studies call) will consist of a theory exam, an identification test and another recognition test.

Qualifying criteria for obtaining honors:

Action will be taken in accordance with the provisions of Article 80 of the Academic Regime Regulations of the University of Córdoba.

Sustainable development goals

Quality education

Climate action

Life below water

Life on land

The methodological strategies and the evaluation system contemplated in this Teaching Guide will respond to the principles of equality and non-discrimination and must be adapted according to the needs presented by students with disabilities and special educational needs in the cases that are required. Students must be informed of the risks and measures that affect them, especially those that may have serious or very serious consequences (article 6 of the Safety, Health and Welfare Policy; BOUCO 23-02-23).
