

**COURSE DATA****Data Subject**

<b>Code</b>	43240
<b>Name</b>	Arthropods and terrestrial ecosystems: Constant evolution
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	3.0
<b>Academic year</b>	2021 - 2022

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
2148 - M.D. in Biodiversity: Conservation and Evolution	Faculty of Biological Sciences	1	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2148 - M.D. in Biodiversity: Conservation and Evolution	3 - Biodiversity and conservation of invertebrates	Optional

**Coordination**

<b>Name</b>	<b>Department</b>
SELFA ARLANDIS, JESUS	355 - Zoology

**SUMMARY**

“Arthropods and Terrestrial Ecosystems: Constant Evolution” is part of the core subjects of the university master's degree in Biodiversity: Conservation and Evolution. It approaches the group of arthropod animals, emphasizing their biological and ecological strategies and considering these in the framework of a constant evolution in their interrelationships into terrestrial ecosystems. Its study load is 3 credits. The activities contemplated are: theoretical sessions in the classroom, practical sessions in the laboratory and a field trip (provided that the budgeted economic availability allows it).

**PREVIOUS KNOWLEDGE**



### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

N o n e .

## OUTCOMES

### 2148 - M.D. in Biodiversity: Conservation and Evolution

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- To acquire basic skills to develop laboratory work in biomedical research.
- Be able to make quick and effective decisions in professional or research practice.
- Be able to access the information required (databases, scientific articles, etc.) and to interpret and use it sensibly.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Stimulate the capacity for critical reasoning and for argumentation based on rational criteria.
- Awaken interest in the social and economic application of science.
- Favour intellectual curiosity and encourage responsibility for one's own learning.
- Encourage ethical commitment and environmental awareness.
- Be able to communicate and disseminate scientific ideas.

## LEARNING OUTCOMES

After completing the course, the student will:

- Know how to prepare a clear and concise report of the results of your work and the conclusions obtained.
- Be able to apply the research experience acquired in tasks related to their future professional activity.
- Be able to carry out studies based on the use of experimental techniques in the field of Entomology.



- Value biodiversity and be committed to conservation and sustainable development.
- Be able to publicly expose and defend the results and conclusions of their work.
- Have deepened your knowledge of arthropods.
- Be able to apply the acquired experience to start the development of the research phase of a doctoral program on topics related to arthropods.
- Recognize the importance of multidisciplinary analyzes to address the theoretical-practical investigation of arthropod diversity.

## DESCRIPTION OF CONTENTS

### 1. Introduction to the arthropods

Comparative general external morphology of large arthropodian groups. Approach to the classification and phylogeny of the large arthropodian groups.

### 2. Ametabolous hexapods

The orders of parainsects and apterous insects. Morphological characterization, diversity, classification and phylogeny. Ecological importance.

### 3. Hemimetabolous hexapods

The orders of paleopterous insects. Morphological characterization, diversity, classification and phylogeny. Ecological importance.

### 4. Paurometabolous hexapods

The orders of orthopteroid and hemipteroid insects. Morphological characterization, diversity, classification and phylogeny. Ecological, economic and sanitary importance.

### 5. Holometabolous hexapods

The orders of hymenopteroid, neuropteroid and mecopteroid insects. Morphological characterization, diversity, classification and phylogeny. Ecological, economic and sanitary importance.



## WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	20,00	100
Laboratory practices	10,00	100
Study and independent work	45,00	0
<b>TOTAL</b>	<b>75,00</b>	

## TEACHING METHODOLOGY

Each thematic unit includes theoretical-practical teaching and learning activities.

Each unit consists of face-to-face sessions in theoretical, master-participatory classes, lasting 1 hour or 1 ½ depending on the needs of the teaching organization. In addition, there are face-to-face sessions in the practical laboratory, lasting 2 hours, where students work preferably in pairs, which complement and strengthen the fundamental knowledge of the thematic unit. The total hours in these sessions are 30, of which 14 are theoretical and 16 are practical.

**Note:** Provided that the budgeted economic availability in each academic year allows it, a field trip would take place that would take 6 hours. If that were the case, these hours would be deducted from those corresponding to the laboratory practices, so the latter would then add up to a total of 10 hours.

## EVALUATION

The evaluation of the subject (100% of the qualification) will be based on the evaluation of the quality in format and contents of a theoretical written work of bibliographic research, carried out individually, related to any of the thematic units.

In the event that a student also took the subject of "Pests: The Control of Harmful Super-populations", the evaluation of the work, also carried out individually, would be valid for the equal qualification of both subjects, always and when looking for a theme that was common to them.

## REFERENCES

### Basic

- Se pondrán a disposición del alumnado todas aquellas fuentes bibliográficas que, en el momento de la impartición de la materia ofertada, estén actualizadas y se adecúen a su formación.
- Es posarà a disposició de l'alumnat totes aquelles fonts bibliogràfiques que, en el moment de la impartició de la matèria ofertada, estiguen actualitzades i se adequen a la seua formació.



- All those bibliographic sources that, at the time of teaching the subject offered, are up-to-date and appropriate to their training, will be made available to students.

## **ADDENDUM COVID-19**

**This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council**

### **1. Contenidos**

Se mantienen los contenidos inicialmente recogidos en la guía docente.

### **2. Volumen de trabajo y planificación temporal de la docencia**

Se mantiene el peso de las distintas actividades que suman las horas de dedicación en créditos ECTS marcadas en la guía docente original. Las sesiones no presenciales sustitutorias de las actividades presenciales (salida al campo y práctica de laboratorio complementaria), han sido programadas en las mismas fechas iniciales, siendo ambas consecutivas.

### **3. Metodología docente**

En los días consecutivos que estaban previstas las actividades presenciales, se subirán al aula virtual un total de 9 documentos repartidos de la siguiente forma: 4 vídeos explicativos y 1 pdf de imágenes para la salida al campo, y 3 vídeos explicativos y 1 pdf de imágenes para la práctica de laboratorio complementaria. Asimismo, se propondrá un cuestionario telemático único que los alumnos deberán responder de manera obligatoria en el plazo de 10 días naturales, creando para ello una tarea práctica virtual con limitación temporal para su entrega.

### **4. Evaluación**

Se mantiene el mismo sistema de evaluación indicado en la guía docente original. El cuestionario práctico virtual programado no será calificado; sin embargo, la no presentación por parte de la/el alumna/o supondrá una penalización en la nota final de la asignatura de 1 punto.

### **5. Bibliografía**

La bibliografía recomendada se mantiene pues es accesible.