

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

Code	43243
Name	Pests: the control of the harmful overpopulations
Cycle	Master's degree
ECTS Credits	3.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. Period	year
2148 - Master's degree in Biodiversity: Conservation and Evolution	Faculty of Biological Sciences	1	Second term

Subject-matter

Degree	Subject-matter	Character
2148 - Master's degree in Biodiversity: Conservation and Evolution	3 - Biodiversity and conservation of invertebrates	Optional

Coordination

Name	Department
FERRER SUAY, MARIA DEL MAR	355 - Zoology
SELF ARLANDIS, JESUS	355 - Zoology

SUMMARY

"Pests: The Control of Harmful Super-populations" is part of the core subjects of the university master's degree in Biodiversity: Conservation and Evolution. This subject deals with the concept of plague and new trends in population control. It also reviews the characteristics and peculiarities of animal populations, mainly insects, which constitute agricultural, forest, stored pests, and of interest in environmental health. 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

None.

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

2148 - Master's degree 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 (RD 1393/2007) // NO CONTENT (RD 822/2021)

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 pests and their control.
- 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 the animals whose populations become pests.
- Be able to apply the experience acquired to start the development of the research phase of a doctoral program on topics related to Arthropods, Pests and Pest Control.
- Recognize the importance of multidisciplinary analysis to address theoretical-practical research.

DESCRIPTION OF CONTENTS

1. Introduction to animal pests

Pest and control concepts. Triggering factors for the plague phenomenon. Economic thresholds. Types of pests. Types of control.

2. Agricultural pests

Incidence of agricultural pests in the world economy. Triggering factors for its appearance. Main harmful species. Control of populations through natural enemies.

3. Forest pests

The siege of drillers and defoliators. Triggering factors for its appearance. Main harmful species. Control of populations through natural enemies.

4. Urban pests

The problem of food hygiene and environmental health. Main harmful species. Solutions to the problems of the conservation of buildings, food and disease vectors.



WORKLOAD

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

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 12 are theoretical and 18 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 14 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 “Arthropods and Terrestrial Ecosystems: Constant Evolution”, 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.

