COURSE DATA

DATA SUBJECT

Code: 43236
Name: Ichthyology
Cycle: Master's Degree
ECTS Credits: 3
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
2148 - Master's degree in Biodiversity: Conservation and Evolution	Facultat de Ciències Biològiques	1	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
2148 - Master's degree in Biodiversity: Conservation and Evolution	Biodiversity and conservation of vertebrates	ELECTIVES

COORDINATION

PEREZ DEL OLMO ANA

REPULLES ALBELDA AIGÜES

SUMMARY

Ichthyology is an elective course in the Master's degree in Biodiversity: Conservation and Evolution. Ichthyic fauna includes a great diversity of vertebrate groups, with very different structural plans that represent highly divergent evolutionary lines. The main focus of this course is precisely to highlight this great anatomical, biological and ecological diversity. A knowledge of these species will allow us to design strategies for their conservation. The economic importance of the different species in fisheries and aquaculture will also be indicated.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

Basic knowledge of zoology is required.

COMPETENCES / LEARNING OUTCOMES

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Awaken interest in the social and economic application of science.

Be able to access the information required (databases, scientific articles, etc.) and to interpret and use it sensibly.

Be able to communicate and disseminate scientific ideas.

Be able to make quick and effective decisions in professional or research practice.

Encourage ethical commitment and environmental awareness.

Favour intellectual curiosity and encourage responsibility for one's own learning.

Stimulate the capacity for critical reasoning and for argumentation based on rational criteria.

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 be able to assess the need to complete the scientific, historical, language, informatics, literature, ethics, social and human background in general, attending conferences, courses or doing complementary activities, self-assessing the contribution of these activities towards a comprehensive development.

DESCRIPTION OF CONTENTS

1. Introduction to pisciform vertebrates.

General characteristics.

2. Superclass Agnathan.

Classification. Present-day groups.

3. Superclass Gnathostomata I: Chondrichthyans.

Classification. Chondrichthyans and their interactions with humans.

4. Superclass Gnathostomata II: general features and minor groups.

Classification of Actinopterygians and Sarcopterygians: Chondrichthyes and Neopterygians.

5. Superclass Gnathostomata III: Teleosts.

Relevant anatomical characters. Subdivisions: Osteoglossomorphs, Elopomorphs, Clupeomorphs and Euteleostomorphs.

6. Extinct groups: evolution,diversity and ecological aspects.

Agnathans, placoderms, chondrichthyans and osteichthyes fossils.

7. Fisheries, aquaculture and aquariology. Management and Conservation.

Large marine fishing areas. Main exploited species. Interaction with the environment and conservation.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	18,00
Laboratory	12,00
Total hours	**30,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	2,00
Individual or group project	8,00
Independent study and work	0,00
Preparation of lessons	20,00
Preparation for assessment activities	15,00
Resolution of case studies	0,00
Total hours	**45,00**

TEACHING METHODOLOGY

The course consists of a series of theoretical sessions in the classroom where lectures are interspersed with problem-solving sessions in which students will discuss and present their opinions on different aspects of fish. The time needed to teach each of the topics is variable. The theory sessions required for each of them can be 1, 2 or 3 hours.

In the first session, the date of the visit to an external centre will be fixed. In addition, there will be practical laboratory sessions in which functional and anatomical interpretations of fish morphology will be carried out.

If time is available, students will prepare and present in groups a topic proposed by the teachers. The teacher's evaluation of the presentation and intervention in the seminars will be included in the mark.

EVALUATION

For the evaluation of the learning process, there will be a written exam in which it will be necessary to prove the knowledge acquired in the theoretical and practical sessions. The different partial contributions of the final grade will be the following:

1) Exam (Theoretical) .....40 %.

2) Examen (practical).....30 %.

3) Seminars and participation .....30 %.

REFERENCES

- Bauchot M.L. y Pras A. 1980. Guide des poissons marins d'Europe. Ed. Delachaux et Niestlé. 427pp. - Bone Q. y Moore R. 2008. Biology of fishes. 3ª ed. Taylor & Francis. 450pp. - Castro P. y Huber M.E. 2007. Biología Marina. McGraw-Hill. Interamericana McGraw-Hill. 486 pp. - Helfman G.S., Collette B.B. y Facey D.E. 1997. The diversity of fishes. Blackwell Science. 528 pp. - Lloris Samo D. 2015. Ictiofauna Marina. Omega. 680 pp. - Moyle P.B. y Cech R. 2007. Fishes. An introduction to Ichthyology. Prentice-all. 367 pp. - Nelson J.S. 2006. Fishes of the World. John Wiley & Sons. 601 pp. - Pough F.H., Janis C.M. y Heiser JB. 2002. Vertebrate Life. Pearson, Prentice Hall. 467pp. -Whitehead P.J.P et al. (eds.). 1986. Fishes of the North-eastern Atlantic and the Mediterranean. UNESCO. 3 vols.