COURSE DATA

DATA SUBJECT

Code: 46749
Name: Museum studies and communication of palaeontological heritage
Cycle: Master's Degree
ECTS Credits: 3
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
2266 - Master's Degree in Applied Palaeontology	Facultat de Ciències Biològiques	1	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
2266 - Master's Degree in Applied Palaeontology	Management of palaeontological heritage	ELECTIVES

COORDINATION

MARTINEZ PEREZ CARLOS

SUMMARY

Optional subject within the Conservation and Diffusion of Paleontological Heritage subject.

Subject focused on the knowledge of museums as essential instruments of scientific communication, acting as privileged institutions for learning and understanding science. It is about making possible the junction between scientists and citizens for the transmission of knowledge in an understandable way and, also, becoming places where citizens can question science and interact in some way with it. If for many years the dissemination of scientific culture was based on books, magazines and audiovisual media, today museums have taken a relevant, almost primordial place in this dissemination.

Paleontological heritage is made up, on the one hand, by the set of known and studied fossil deposits and sections ("immovable" heritage) and, on the other, by the set of paleontological collections and specimens housed in museums, collections and exhibitions ("movable heritage"). The risks and needs of paleontological elements are evident when they are in the sites, but what is the reason for extracting this material from its context? Where should it be deposited and why? What destination should this material have: research, exhibition, didactics ...?

What are the risks that this heritage may suffer? Is access to this material exclusive to research, can it be

disseminated without losing scientific rigor? All these issues, among others, are what justify the functions of Scientific Museums: the "Management of Collections", and its value in all its facets.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

There are no enrolment restrictions with other subjects in the syllabus. However, it is advisable to have a minimum knowledge of Zoology, Ecology, as well as general Geology and Palaeontology.

COMPETENCES / LEARNING OUTCOMES

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Access information tools from other areas of knowledge and use them appropriately.

Access the necessary information in the specific field of the subject (databases, scientific articles, etc.) and have sufficient judgement to interpret and use it.

Apply critical reasoning and argumentation based on rational criteria.

Apply science from a social and economic point of view, promoting the transfer of knowledge to society.

Apply the knowledge acquired and problem-solving abilities in new or unfamiliar situations within broader (or multidisciplinary) contexts related to the field of study.

Apply the research experience acquired to tasks specific to the profession, both in the private sector and in public institutions.

Assess the need to complement their scientific, historical, language, IT, literature, social and human ethics education by attending lectures or courses and/or carrying out complementary activities, self-evaluating the contribution that these activities make to their overall education.

Assume an ethical commitment and sensitivity towards environmental problems and natural and cultural heritage.

Be familiar with, develop and manage georeferenced databases of elements from the geological and palaeontological record, as well as the software used for the spatial representation and analysis of these elements.

Communicate and popularise scientific ideas.

Communicate conclusions and the knowledge and rationale supporting them to specialised and non-specialised audiences clearly and unambiguously.

Conduct studies, applying the methods and techniques needed to preserve and manage palaeontological heritage.

Continue the learning process in a manner that is largely self-directed or independent.

Demonstrate in-depth understanding of the historical nature of the evolutionary process, both in its aspects of unrepeatability and contingency and in those linked to the fulfilment of laws of nature of all kinds and, therefore, of necessity.

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

Demonstrate knowledge and understanding of the legal foundations for the protection and conservation of palaeontological heritage at the level of the EU, Spain and the Spanish Autonomous Communities.

Develop experimental skills in the handling of laboratory material and equipment in palaeontology.

Have an in-depth knowledge and understanding of the regional geology of Spain and surrounding areas, particularly the Valencian Community, with detailed knowledge of the main palaeontological sites found in the Iberian Peninsula and North Africa.

Integrate knowledge and confront the complexity of making judgements based on information that, although incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of knowledge and judgements.

Know, understand and draw conclusions, applicable to the present time, about the crises of biological diversity, and their causes and consequences within the framework of actualism.

Know and understand the palaeodiversity of living beings, their ecosystemic relationships and the palaeogeographical distribution achieved by the main groups of living beings throughout the Earth's history.

Learn about the techniques used in museums for the management of palaeontological heritage, identifying, during guided work visits, successful examples in the field of palaeontology (Dinópolis, the Catalan Institute of Palaeontology, the Palaeontological Museum of Elche).

Make quick and effective decisions in complex situations in their professional or research work, by developing new and innovative work methodologies adapted to the scientific/research, technological or professional field in which they carry out their activity.

Plan and manage available resources, taking into account the basic principles of quality, risk prevention, safety and sustainability.

Prepare, write and present reports and projects in public in a clear and coherent manner, defend them with rigour and tolerance and respond satisfactorily to any criticism that may arise from the presentation.

Produce all types of reports related to palaeontological matters clearly and concisely at an official or professional level (reports, grants, heritage impact reports, research projects, etc.)

Skillfully handle the field, laboratory and office techniques for the extraction, preparation, cataloguing, digital reconstruction, study and dissemination of microfossils and macrofossils.

Use acquired knowledge as a basis for originality in the development or application of ideas, often in a research context.

Work efficiently in a professional or research team, acquiring the ability to participate in research projects and scientific or technological collaborations.

DESCRIPTION OF CONTENTS

1. Theoretical Block

Unit 1. Museum concept. Museology. Elements of Museology. History of museology and the origin of the museum's collections and objectives.

Unit 2. The Role of Museums in Heritage Conservation. Types of Museums. The museum of the Teruel-Dinópolis Paleontological Complex. Communication of the paleontological heritage around the world of dinosaurs.

Unit 3. Fossils as elements of the Historical, Cultural and Natural Heritage. Legislation applied to movable paleontological heritage. European, national and regional legislation. Legislation on museums.

Unit 4. Dynamics and management of paleontological collections. Cataloging and inventory standards in naturalist museums. Preventive conservation. Code of ethics. Preparation, conservation and restoration of natural specimens: methods and experiences. The value of molds as a didactic and scientific instrument.

Unit 5. Diffusion and dissemination: strategic elements for conservation and research. Scientific research in museums. Communication in museums: Social function. Communication in other centers (interpretation centers, exhibitions, museum collections, private collections, university collections, etc.).

Unit 6. Museology and Museography. Design and organization of exhibitions. Elaboration of projects in Museography. Virtual didactic museography. Paleontological sites and potential for use: movable and immovable heritage. Projects for the communication of paleontological heritage.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	6,00
Seminar	2,00
Other activities	12,00
Laboratory	10,00
Total hours	**30,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	0,00

Independent study and work	0,00
Preparation of lessons	0,00
Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	**0,00**

TEACHING METHODOLOGY

Theoretical-practical classes:

- Participative master classes with computer presentations:

- Personal work in person of practical cases of Museology and Museography

- Participation in various heritage dissemination projects.

- Exhibition and public defense of group work

Laboratory-cabinet practice classes:

- Introduction and planning of each practice. Proposed practices:

-Management of paleontological collections: Identification, signage, registry, databases, techniques basic preventive conservation. Basic molding and replicating techniques. Elaboration of molds and replicas.

- Design of the Exhibition Project of a temporary or traveling exhibition.

-Valuation of museological and museographic contents in museums or exhibitions paleontological of the Valencian Community.

- Design and development of projects in Museology and Museography

- Practical cases in Museum Management and Movable Heritage.

Seminars:

- Attendance at conferences and theoretical-practical seminars of specialists that complement the training received in other subjects

- Communication of heritage outside our borders. Cases of interest.

- Visits to other Museums and interpretation centers (physical and virtual visits)

- Preparation of various materials and documents in theoretical-practical activities

EVALUATION

• Final work (and presentation) that can be done individually or in groups throughout the semester for the evaluation of the technical skills of the subject. The contribution to the final grade may not exceed 70% of the total grade.

• Continuous evaluation 30%

-Attendance and use of classes

REFERENCES

- Castellanos, P. (2008). Los Museos de ciencias y el consumo cultural: Una mirada desde la comunicación. Ed. UOC. 230 pp. - Rico, J.C. (2006). Manual práctico de museología, museografía y técnicas expositivas. Ed. Silex. 253 pp. - Roigé, X. (2014). Los Museos de la Ciencia en España: entre la Divulgación Científica, el Consumo Cultural y la Creación de Nuevos Referentes Sociales. Intemational Joumal of Deliberative Mechanisms in Science, 3(1), 49-72.doi:10.4471/demesci. 2014.14 Link: http://dx.doi.org110.4471/demesci.2014.14 - VV. AA. (1996). Museums for the new millenium. A Symposium for the museum community. Washington D.C. Smithsonian Institution. The American Asoctiation of Museums. - VV. AA. (2000). Exploring Science in Museums. Ed. Susan Pearce. 224 pp. - VV. AA. (2005). Museología de la ciencia: 15 años de experiencia. Joan Santacana y Núria Serrat Antolí (Coords.). Ed Ariel. 653 pp. - VV. AA. (2013). Museos y colecciones de Historia Natural. Investigación, educación y difusión. González Bueno, A. y Baratas Díaz, A., (Eds). Memorias de la RSEHN. Segunda Época, Tomo XI. 422 pp. - Alcalá,L., 2005.Los museos y la nueva proyección social de la Paleontología.Boletín RSEHN (sec.Geol.) 100(1-4) pp.289-3

- Boletín de la RSEHN: Sección Aula, Museos y Colecciones. - Fernández-Martínez, E., Barbadillo Escrivá de Romaní, P., Castaño de Luis, R., Marcos Reguero, A., Preciado González, J.M. & Serrano Gómez, E. (2012). Geoturismo en la ciudad de Burgos una guía de geología urbana para todos los públicos. Ayuntamiento de Burgos, 101 pp. - Lacomba, J. (2015). Manual de ayuda para trabajos de estratificado, moldeo y colada con Composites. Glaspol Composites (Eds.). - Morales Miranda, J. (2001): Guía práctica para la interpretación del Patrimonio. Sevilla. Junta de Andalucía. Consejería de Cultura.