



UNIVERSIDAD DE CORDOBA

FACULTAD DE CIENCIAS DE LA EDUCACIÓN Y

PSICOLOGÍA

GRADO DE EDUCACIÓN INFANTIL

2024/25 YEAR

**DIDÁCTICA DE LAS CIENCIAS
NATURALES EN EDUCACIÓN
INFANTIL****Course details**

Course name: DIDÁCTICA DE LAS CIENCIAS NATURALES EN EDUCACIÓN INFANTIL**Code:** 270047**Degree/Master:** GRADO DE EDUCACIÓN INFANTIL**Year:** 3**Field:****Character:** OBLIGATORIA**Duration:** FIRST TERM**ECTS Credits:** 4.5**Classroom hours:** 45**Face-to-face classroom percentage:** 40.0%**Study hours:** 68**Online platform:** <https://moodle.uco.es/>**Coordinating teacher**

Name: RAMOS MIRAS, JOSÉ JOAQUÍN**Department:** DIDÁCTICAS ESPECÍFICAS**Office location:** Facultad Ciencias Educación. 1ª Planta, Modulo B**E-Mail:** jjramos@uco.es**Phone:** 957218934**Brief description of the contents**

The natural sciences and their relationships.

Learning Natural Sciences. Scientific and didactic foundations in Early Childhood Education.

Contents, Activities and Didactic Orientations.

Prerequisites

Prerequisites established in the study plan

none

Recommendations

none

Study programme

1. Theory contents**Block I. The natural sciences and their relationships:**

Approach to the construction of scientific knowledge. Different perspectives and relationships in the study of Natural Sciences: Science-technology-society.

Block II. Learning Natural Sciences. Scientific and didactic foundations in Early Childhood Education:

The different strategies for the study of Natural Sciences didactics. Research and innovation in the Didactics of these sciences. The teaching of Natural Sciences: purposes, methods and strategies. The conceptions of the students and their role in the construction of the school knowledge. Problems and difficulties in learning natural concepts in Early Childhood Education.

Block III. Contents, Activities and Didactic Orientations: Curricular requirements of Natural Sciences in Early Childhood Education:

Selection and organization of objectives, contents, activities and evaluation criteria. The body and its care. The game and the movement. The physical environment. Living beings. The activities of daily living, life in society.

2. Practical contents

- Realization of didactic resources related with the planned Thematic Units.
- Elaboration, exposition and debate of themes related with the matter.
- Research in natural sciences and its didactic application to classrooms.

Bibliography

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2. Bibliografía complementaria:

Normativa:

Ley Orgánica 2/2006 de 3 de mayo de Educación.

Ley Orgánica 3/2020, de 29 de diciembre, por la que se modifica la Ley Orgánica 2/2006, de 3 de mayo de Educación

Real Decreto 95/2022, de 1 de febrero, por el que se establece la ordenación y las enseñanzas mínimas de la Educación Infantil.

Orden EFP/608/2022, de 29 de junio, por la que se establece el currículo y se regula la ordenación de la Educación Infantil en el ámbito de gestión del Ministerio de Educación y Formación Profesional

Ley 17/2007, de 10 de diciembre, de Educación de Andalucía.

Decreto 100/2023, de 9 de mayo, por el que se establece la ordenación y el currículo de la etapa de Educación Infantil en la Comunidad Autónoma de Andalucía.

Orden de 30 de mayo de 2023, por la que se desarrolla el currículo correspondiente a la etapa de Educación Infantil en la Comunidad Autónoma de Andalucía.

Libros infantiles y guías de la naturaleza:

Aladjidi, V. (2015). Inventario ilustrado de insectos.

Kalandraka. Chinery, M. (1977). Guía de campo de los insectos de España y de Europa. Omega.

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las especies de Charles Darwin. Harperkids.

Sarbacane (2019). Busca los animales en la ciudad. Ediciones SM.

Enlaces a revistas:

- Enseñanza de las ciencias <https://ensciencias.uab.es/>

- Revista Eureka sobre enseñanza y divulgación de las ciencias <https://revistas.uca.es/index.php/eureka>

- APICE Revista de educación científica <https://revistas.udc.es/index.php/apice/issue/view/arec.2020.4.1> -

Alambique Didáctica de las Ciencias Experimentales <https://www.grao.com/es/alambique> - Revista Didáctica de las

Ciencias Experimentales y Sociales <https://ojs.uv.es/index.php/dces>

- Journal of Biological Education <https://www.tandfonline.com/toc/rjbe20/current>

- The American Biology Teacher <https://online.ucpress.edu/abt>

- Journal of Research in Science Teaching <https://onlinelibrary.wiley.com/journal/10982736>

- Journal of the Learning Sciences <https://www.tandfonline.com/toc/hlms20/current>

- Studies in Science Education <https://www.tandfonline.com/toc/RSSE20/current>

- Science Education <https://onlinelibrary.wiley.com/journal/1098237x>

Buscadores de artículos:

Scholar Google <https://scholar.google.es/schhp?hl=es>

ERIC Education Resources Information Center <https://eric.ed.gov/>

Methodology

General clarifications on the methodology (optional)

1. The previous knowledge of the students about facts and phenomena related with the natural, social and cultural environment will be taken into account. Student participation will be promoted in order to favour the development of its critical and creative ability.

2. The role of the teacher will be essentially to introduce and systematize the different matters to develop in class, as well as to guide the different works and activities that students will generate.

3. Individual work and group work will be alternated depending on the activities proposed, as well as activities out of the class.

4. Part time students must contact with the lecturer of the subject in order to specify an alternative personal design, which will include the theoretical study of the documentation provided in the subject, the elaboration of the activities proposed and the realization of a report.

5. An attitude of respect between men and women will be taken into account in the written texts and in students' behaviour. Their training in gender equality is essential to develop the ability to generate appropriate materials and to promote critical thinking and respect.

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

The professor responsible for the subject may establish the monitoring mechanisms that he considers appropriate in relation to part-time enrolled students.

Face-to-face activities

Activity	Large group	Medium group	Total
<i>Assessment activities</i>	2	-	2
<i>Field trips</i>	-	2	2
<i>Information processing activities</i>	3	1	4
<i>Oral communication activities</i>	2	2	4
<i>Practical experimentation activities</i>	1	8	9
<i>Projects based on the course contents</i>	19	1	20
<i>Written expression activities</i>	3	1	4
Total hours:	30	15	45

Off-site activities

Activity	Total
<i>Exercise and problem solving activities</i>	13
<i>Information processing activities</i>	40
<i>Information search activities</i>	15
Total hours	68

Results of the training and learning process

Knowledge, competencies and skills

- CE1 To know the objectives, curricular content, and evaluation criteria of Early Childhood Education.
- CE2 To promote and facilitate learning in early childhood, from a global and integrated perspective of the different cognitive, emotional, psychomotor and volitional dimensions.
- CE3 To design and regulate learning spaces in contexts of diversity that meet the unique educational needs of students and that facilitate gender equality, equity and respect for Human Rights.

- CE4 To promote coexistence in and outside the classroom and to encourage the peaceful resolution of conflicts. To know how to systematically observe learning and coexistence contexts and to know how to reflect on them.
- CE7 To know the educational implications of information and communication technologies and, in particular, television in early childhood.
- CE8 To know basics of children's dietetics and hygiene. To know the basics of early attention. To know the foundations and developments that give way to the understanding of psychological, learning and personality construction processes in early childhood.
- CE11 To reflect on classroom placement in order to innovate and improve teaching. To acquire habits and skills for autonomous and cooperative learning and to promote it in students.
- CE13 To construct an updated vision of the natural and social world.
- CM8.1 To know the scientific, mathematical and technological foundations of the curriculum of this stage as well as the theories about the acquisition and development of the corresponding learning.
- CM8.2 To know didactic strategies to develop numerical representations and spatial, geometric and logical development notions.
- CM8.4 To know the scientific methodology and promote scientific thinking and experimentation.
- CM8.6 To know the most notable moments in the history of science and technology and its importance.
- CM8.7 To elaborate the didactic proposals in relation to the interaction of science, technology, society and sustainable development.
- CM8.8 To promote interest and respect for the natural, social and cultural environment through appropriate educational projects.
- CM8.9 To cultivate introductory experiences in information and communication technologies.

Assessment methods and instruments

Intended learning outcomes	Attendance checklist	Examination	Group or individual globalizing projects	Oral means
CE1			X	X
CE11		X	X	
CE13		X	X	
CE2		X	X	X
CE3			X	
CE4	X	X	X	X
CE7		X	X	X

Intended learning outcomes	Attendance checklist	Examination	Group or individual globalizing projects	Oral means
<i>CE8</i>		X	X	X
<i>CM8.1</i>			X	
<i>CM8.2</i>			X	
<i>CM8.4</i>			X	X
<i>CM8.6</i>		X		
<i>CM8.7</i>		X	X	
<i>CM8.8</i>			X	X
<i>CM8.9</i>			X	
Total (100%)	10%	50%	30%	10%
Minimum grade (*)	5	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:

The evaluation of the subject in the ordinary calls will be carried out taking into account the works assessable practicals developed throughout the course (oral presentations and projects) and exams. It is necessary to pass each compulsory tests and work to pass the subject. It is necessary to attend 50% of the practical lessons to pass the subject.

Each mark in the assessment instruments will be valid for ordinary and extraordinary calls of the academic year.

To overcome the subject, a good level of linguistic and communicative competence will be essential. The lack of correction in the preparation of oral or written texts may have a negative impact on the final grade.

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

Part- time students should pass every section of the subject, according to their personalized proposal. To overcome the subject, a good level of linguistic and communicative competence will be essential. The lack of correction in the preparation of oral or written texts may have a negative impact on the final grade.

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

The evaluation of the subject in extraordinary calls may be carried out by means of an exam that constitutes 100% of the total mark for the subject. Students must obtain a minimum mark of 5 out of 10 to pass the subject. In this case, the exam will be the instrument that will evaluate all the competencies of the subject.

Qualifying criteria for obtaining honors:

Reglamento de Régimen Académico de los estudios de Grado y Máster de la UCO.

Sustainable development goals

Good health and well-being
Quality education
Gender equality
Reduced inequalities
Sustainable cities and communities
Responsible consumption and production
Climate action
Peace, justice and strong institutions
Partnerships for the goals

Other Faculty

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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).
