COURSE DESCRIPTION

COURSE DETAILS

Title (of the course): **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: Moodle

LECTURER INFORMATION

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PREREQUISITES AND RECOMMENDATIONS

Prerequisites established in the study plan

None

Recommendations

None specified

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INTENDED LEARNING OUTCOMES

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.

OBJECTIVES

1. To know and to analyse the official curriculum of Early Childhood Education as model for the design of units of work in class lessons.
2. To use students' knowledge in the process of teaching-learning as essential element, paying attention to a constructivist teaching with an active, participative and creative methodology.
3. To reflect about the potentiality of the contents of Natural Sciences, as guides to other curriculum areas and its close relationship with the transverse matters.
4. To develop skills and abilities to work as a team in order to promote the interchange of knowledge between future teachers.
5. To acquire skills and abilities in relationship with the search, analysis and treatment of the information, including bibliographical and technological resources assessing the contribution to a better quality of life.
6. To develop proposals of action (didactic units) in the corresponding areas of contents.
7. To acquire and promote positive attitudes for the teaching of Natural Sciences in Early Childhood Education.
8. To Know, to elaborate and to use appropriate didactic resources for Natural Sciences teaching and to be able to apply procedures and suitable activities to learning situations.
9. To acquire skills and abilities for the professional development of the student.

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CONTENT

1. Theory contents

BLOCK I. Bases of natural science education.

- Unit 1. Natural science education. Science curriculum in Early Childhood Education. Need and purposes of an early scientific education. Scientific methodology and inquiry in children. Principles to facilitate learning. Student's learning and their difficulties.
- Unit 2. Tools, strategies and teaching materials. BLOCK II. Science contents and teaching proposals.
- Unit 3. Teaching the universe and the Earth. Objectives, content and evaluation in Early Childhood Education. Theoretical concepts, methodology and teaching resources.
- Unit 4. Teaching the living beings. Objectives, content and evaluation in Early Childhood Education. Theoretical concepts, methodology and teaching resources.
- Unit 5. Teaching the Human Body. Objectives, content and evaluation in Early Childhood Education. Theoretical concepts, methodology and teaching resources.

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.

SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Quality education
Gender equality
Life on land

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.

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Face-to-face activities

Activity	Large group	Medium group	Total
Assessment activities	2	-	2
Debates	2	-	2
Excursions	-	2	2
Group presentation	-	2	2
Group work (cooperative)	-	9	9
Lectures	23	-	23
Speaking Activities	1	1	2
Text analysis	1	-	1
Writing Activities	1	1	2
Total hours:	***30***	***15***	***45***

Off-site activities

Activity	Total
Analysis	5
Group work	20
Information search	5
Reference search	5
Self-study	33
Total hours	***68***

WORK MATERIALS FOR STUDENTS

Dossier
Oral presentations
References

EVALUATION

Intended learning	Exams	Oral Presentation	Project
CE1	X		X

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Intended learning	Exams	Oral Presentation	Project
CE11	X	X	X
CE13			X
CE2	X	X	X
CE3	X	X	X
CE4	X	X	X
CE7		X	X
CE8		X	X
CM8.1			X
CM8.2			X
CM8.4	X		X
CM8.6		X	
CM8.7		X	X
CM8.8	X		X
CM8.9			X
Total (100%)	***25%***	***50%***	***25%***
Minimum grade	***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.

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Method of assessment of attendance:

Attendance will be registered in practical lessons. Each absence will diminish 0.2 point the final mark. It is necessary to attend 50% of the practical lessons to pass the subject.

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 subjet.

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.

BIBLIOGRAPHY

1. Basic Bibliography

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Freire, H. (2014). Educar en verde: ideas para acercar a niños y niñas a la naturaleza. Barcelona: Graó.

Freire, H. (2017). ¡Estate quieto y atiende! Ambientes más saludables para prevenir el déficit de atención y la hiperactividad. Barcelona: Herder.

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2. Further reading

Normativa 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
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Decreto 428/2008, de 29 de julio, por el que se establece la ordenación y las enseñanzas correspondientes a la Educación Infantil en Andalucía.
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- 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
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- Journal of the Learning Sciences https://www.tandfonline.com/toc/hlns20/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/

COORDINATION CRITERIA

Common evaluation criteria
Tasks deadlines
Tasks performance
Visits organization

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SCHEDULE

Period	Assessment activities	Debates	Excursions	Group presentation	Group work (cooperative)	Lectures	Speaking Activities	Text analysis	Writing Activities
1# Fortnight	0,0	0,0	0,0	1,0	2,0	5,0	0,0	0,0	0,0
2# Fortnight	0,0	0,0	2,0	0,0	1,0	4,0	1,0	1,0	0,0
3# Fortnight	0,0	1,0	0,0	0,0	2,0	5,0	0,0	0,0	1,0
4# Fortnight	0,0	0,0	0,0	0,0	2,0	5,0	1,0	0,0	0,0
5# Fortnight	0,0	1,0	0,0	1,0	2,0	4,0	0,0	0,0	1,0
6# Fortnight	2,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Total hours:	***2,0***	***2,0***	***2,0***	***2,0***	***9,0***	***23,0***	***2,0***	***1,0***	***2,0***

The methodological strategies and the evaluation system contemplated in this Course Description will be adapted according to the needs presented by students with disabilities and special educational needs in the cases that are required.