



COURSE DETAILS

Title (of the course): DIDACTICA DE LAS CIENCIAS EXPERIMENTALES EN EDUCACIÓN PRIMARIA

Code: 100810

Degree/Master: GRADO DE EDUCACIÓN PRIMARIA

Year: 3

Name of the module to which it belongs:

Field: DIDÁCTICA DE LAS CIENCIAS EXPERIMENTALES EN EDUCACIÓN PRIMARIA

Character: OBLIGATORIA

Duration: ANUAL

ECTS Credits: 9

Classroom hours: 90

Face-to-face classroom percentage: 40%

Study hours: 135

Online platform:

LECTURER INFORMATION

Name: ARREBOLA HARO, JOSE CARLOS (Coordinator)

Faculty: FACULTAD DE CIENCIAS DE LA EDUCACIÓN

Department: DIDÁCTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÁCTICA DE LAS CIENCIAS EXPERIMENTALES

Office location: PLANTA ALTA

E-Mail: q92arhaj@uco.es

Phone: 957218934

URL web: <http://www.uco.es/organiza/departamentos/ccsociales-experimentales/>

Name: ARREBOLA HARO, JOSE CARLOS (Coordinator)

Faculty: FACULTAD DE CIENCIAS DE LA EDUCACIÓN

Department: DIDÁCTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÁCTICA DE LAS CIENCIAS EXPERIMENTALES

Office location: PLANTA ALTA

E-Mail: q92arhaj@uco.es

Phone: 957218934

URL web: <http://www.uco.es/organiza/departamentos/ccsociales-experimentales/>

Name: ALCÁNTARA MANZANARES, JORGE

Department: DIDÁCTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÁCTICA DE LAS CIENCIAS EXPERIMENTALES

E-Mail:

Phone:

Name: CALDERÓN SANTIAGO, MÓNICA

Department: DIDÁCTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÁCTICA DE LAS CIENCIAS EXPERIMENTALES

E-Mail:

Phone:

Name: MORA MÁRQUEZ, MANUEL

Faculty: FACULTAD DE CIENCIAS DE LA EDUCACION

Department: DIDÁCTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÁCTICA DE LAS CIENCIAS EXPERIMENTALES

Office location: PLANTA ALTA

E-Mail: q82momam@uco.es

Phone: 957212560

URL web: <http://www.uco.es/organiza/departamentos/ccsociales-experimentales/>

Name: MORA MÃ•RQUEZ, MANUEL

Faculty: FACULTAD DE CIENCIAS DE LA EDUCACION

Department: DIDÃ•CTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÃ•CTICA DE LAS CIENCIAS EXPERIMENTALES

Office location: PLANTA ALTA

E-Mail: q82momam@uco.es

Phone: 957212560

URL web: <http://www.uco.es/organiza/departamentos/ccsociales-experimentales/>

Name: RODRÃ•GUEZ ORTEGA, MARÃ•A DEL PILAR GEMA

Department: DIDÃ•CTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÃ•CTICA DE LAS CIENCIAS EXPERIMENTALES

E-Mail:

Phone:

Name: RUBIO GARCIA, SEBASTIAN

Faculty: FACULTAD DE CIENCIAS DE LA EDUCACION

Department: DIDÃ•CTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÃ•CTICA DE LAS CIENCIAS EXPERIMENTALES

Office location: PLANTA ALTA

E-Mail: f62rugas@uco.es

Phone: 957218982

URL web: <http://www.uco.es/organiza/departamentos/ccsociales-experimentales/>

Name: RUBIO GARCIA, SEBASTIAN

Faculty: FACULTAD DE CIENCIAS DE LA EDUCACION

Department: DIDÃ•CTICA DE LAS CIENCIAS SOCIALES Y EXPERIMENTALES

Area: DIDÃ•CTICA DE LAS CIENCIAS EXPERIMENTALES

Office location: PLANTA ALTA

E-Mail: f62rugas@uco.es

Phone: 957218982

URL web: <http://www.uco.es/organiza/departamentos/ccsociales-experimentales/>

Specifics of the course

PREREQUISITES AND RECOMMENDATIONS

Prerequisites established in the study plan

None specified.

Recommendations

None specified.

INTENDED LEARNIG OUTCOMES

- CE1 To know the curricular areas of Primary Education, the interdisciplinary relationship between them, the evaluation criteria, the body of didactic knowledge around the respective teaching and learning processes. In addition, to know and understand the contents that constitute these curricular areas and that allow the achievement of the basic competences in Primary Education.
- CE2 To design, schedule and evaluate teaching and learning processes, both individually and in cooperation with teachers and professionals at the centre.

CE3	To effectively approach language learning situations in multicultural and multilingual contexts. To promote reading and critical commentary of texts from the different scientific dominions and cultural contents in the academic curriculum.
CE5	To foment harmonious relationships inside and outside the classroom and to tackle conflict resolution in a peaceful way. To know how to sistematically observe apprenticeship and coexistence contexts as well as to reflect about them.
CE8	To appreciate culture and knowledge, and maintain an autonomous and critical relationship with respect to knowledge, values and social institutions both private and public.
CE9	To recognise the worth of the individual and collective responsibility in achieving a sustainable future and acquire the necessary training for the promotion of a healthy life.
CE10	To think about the practices in the classroom in order to innovate and improve the educational work. To acquire habits and skills for the autonomous and cooperative learning and to promote it with students.
CE11	To know and apply the technologies of the information and communication in classrooms . Selectively distinguish audiovisual information that contributes to the learning processes, civic formation and cultural richness.
CE14	To create an updated view of the natural and social world.
CM4.1	Understand the basic principles and fundamental laws of experimental sciences (Physics, Chemistry, Biology and Geology).
CM4.2	To know the school curriculum of these Sciences.
CM4.3	To consider and to solve problems which deal with sciences in daily life
CM4.4	To recognise the worth of sciences as a cultural fact.
CM4.5	To acknowledge mutual influence between science, society and technological development, as well as the pertinent civic conducts, in order to ensure a sustainable future.
CM4.6	To develop and evaluate curriculum contents through appropriate didactic resources and promote the acquisition of basic competences among students.

OBJECTIVES

- To acquire skills and competences for professional development of the student.
- To understand the basic principles, fundamental laws, scientific methodology and teaching models of experimental science and its impact on educational practice.
- To design and use appropriate teaching resources for teaching experimental sciences and also implement procedures and suitable activities in learning contexts.
- Planning and evaluating teaching-learning processes in Experimental Science in Primary Education

CONTENT

1. Theory contents

Block 1: Scientific and didactic foundations in science learning.
 Block 2: Curriculum of sciences in the legislative frame.
 Block 3: The Area of Experimental Sciences in Primary Education.
 Block 4: Design and realization of projects and curricular materials.

2. Practical contents

- Fulfillment of didactic resources related to the thematic units programmed.
- Study and commentary of basic documents.
- Programming, exposition and debates of specific themes.
- Laboratory practical sessions.
- Field practical sessions.

METHODOLOGY

General clarifications on the methodology. (optional)

Theoretical and practical approach to the contents.
 Active and participative methodology with the purpose of facilitating the implication of the students and favouring the development of their critical and creative ability to adquire competences.

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

Theoretical and practical approach to the contents.
 Active and participative methodology with the purpose of facilitating the implication of the students and favouring

the development of their critical and creative ability to acquire competences.

Face-to-face activities

Activity	Large group	Medium group	Total
<i>Assessment activities</i>	4	-	4
<i>Excursions</i>	6	-	6
<i>Group presentation</i>	5	5	10
<i>Group work (cooperative)</i>	5	5	10
<i>Lab practice</i>	-	20	20
<i>Lectures</i>	30	-	30
<i>Text analysis</i>	10	-	10
Total hours:	60	30	90

Off-site activities

Actividad	Total
<i>Analysis</i>	10
<i>Group work</i>	25
<i>Information search</i>	15
<i>Reference search</i>	15
<i>Self-study</i>	70
Total hours:	135

WORK MATERIALS FOR STUDENTS

Dossier

EVALUATION

Intended learning outcomes	Tools		
	Assignments and projects	Oral presentations	Short answer tests
CE1	x		
CE10	x		
CE11	x		
CE14	x		x
CE2	x		
CE3	x		
CE5	x		
CE8	x		
CE9	x		x
CM4.1	x		x
CM4.2	x	x	x
CM4.3	x		x
CM4.4	x	x	x
CM4.5	x	x	x
CM4.6	x	x	
Total (100%)	45%	10%	45%
Minimum grade.(*)	5	5	5

(*) Minimum grade necessary to pass the course

Method of assessment of attendance:

None. But it is necessary to assist at least to 50% of classes to pass the subject.

General clarifications on instruments for evaluation:

The final score (weighed average) and to pass this subject entails to reach the minimum levels set in each one of the evaluation instruments

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

The final score (weighed average) and to pass this subject entails to reach the minimum levels set in each one of the evaluation instruments

Qualifying criteria for obtaining honors: *Obtener májrs de 9,5 sobre 10 en la nota final de la asignatura*

General clarifications on the partial evaluations:

Minimum score to eliminate partial subject: 5/10

Validity period: the note will not be saved for the next call

BIBLIOGRAPHY

1. Basic Bibliography:

- BENLLOCH, M. (comp.) (2001).- La educación en ciencias: ideas para mejorar su práctica.- Paidós
- CANDELA, A. (1999).- Ciencia en el aula. Los alumnos entre la argumentación y el consenso.- Paidós
- CARRETERO, M. (2000).- Construir y enseñar las ciencias experimentales.- AIQUE

- GARRIDO, J. M.; GALDON, M. (2003).- Ciencias de la naturaleza y su didáctica.- GEU
- JIMENEZ, M. P. (coord.) (2003).- Enseñar ciencias.- Graó
- KAUFMAN, M.; FUMAGALLI, L. (comp) (1999).- Enseñar ciencias naturales. Reflexiones y propuestas didácticas.- Paidós
- ORDEN de 10 de agosto de 2007, por la que se desarrolla el currículo correspondiente a la Educación Primaria en Andalucía (BOJA nº 171, Sevilla 30 de agosto 2007)
- PERALES, F. J.; CAÑAL, P. (dir.) (2000).- Didáctica de las ciencias experimentales.- Marfil
- POZO, J.I.; GOMEZ, M. A. (1998).- Aprender y enseñar ciencia.- Morata
- PUJOL, M. R. (2003).- Didáctica de las Ciencias en la Educación Primaria.- Síntesis
- REAL DECRETO 1513/2006, de 7 de diciembre, por el que se establecen las enseñanzas mínimas de la Educación primaria (BOE de 8 de diciembre)
- SAEZ, M. J. (2007).- La cultura científica en la escuela.- Univ. de Valladolid
- SANCHEZ, G. (coord.) (2005).- Didáctica de las ciencias experimentales (I y II).- DM

2. Further reading:

None.

COORDINATION CRITERIA

- Common evaluation criteria
- Common learning outcomes
- Visits organization

SCHEDULE

Period	Activity						
	Assessment activities	Excursions	Group presentation	Group work (cooperative)	Lab practice	Lectures	Text analysis
1# Week	0	0	0	0	0	1.5	0
2# Week	0	0	0	1	0	1.5	0
3# Week	0	0	0	0	2	1.5	0
4# Week	0	0	0	1	2	1.5	0
5# Week	0	0	0	0	2	1.5	2
6# Week	0	0	0	1	2	1.5	2
7# Week	0	0	0	0	2	1.5	2
8# Week	0	0	0	1	0	1.5	0
9# Week	0	0	5	0	0	1.5	0
10# Week	2	0	0	1	0	1.5	0
11# Week	0	0	0	0	0	1.5	0
12# Week	0	0	0	1	0	1.5	0
13# Week	0	0	0	0	2	1.5	0
14# Week	0	0	0	1	2	1.5	0
15# Week	0	0	0	0	2	1.5	0
16# Week	0	6	0	1	2	1.5	2
17# Week	0	0	0	0	2	1.5	2
18# Week	0	0	0	1	0	1.5	0
19# Week	0	0	5	0	0	1.5	0
20# Week	2	0	0	1	0	1.5	0
Total hours:	4	6	10	10	20	30	10