VNIVERSITAT DE VALÈNCIA

Course Guide
33653 Teaching science: environment, biodiversity and health

COURSE DATA

DATA SUBJECT

Code: 33653
Name: Teaching science: environment, biodiversity and health
Cycle: Undergraduate Studies
ECTS Credits: 4.5
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
1305 - Degree in Primary School Education	Facultat de Formació del Professorat	4	First quarter
1339 - Grado en Maestro/a Educación Primaria	Facultat de Formació del Professorat	4	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1305 - Degree in Primary School Education	Teaching natural sciences in primary education	COMPULSORY
1339 - Grado en Maestro/a Educación Primaria	Teaching natural sciences in primary education	COMPULSORY

COORDINATION

MAYORAL GARCIA-BERLANGA OLGA

TALAVERA ORTEGA MARTA

HURTADO SOLER DESAMPARADOS

SUMMARY

This is a compulsory four-month subject that addresses the challenge of how to ensure that children successfully approach the Biology and Geology content proposed in the Primary Education curriculum.

The fundamental purpose is to ensure that future teachers learn to teach science in a reflective and innovative way, so that they can make decisions, considering the contributions of the Didactics of Science, about what, why and what for to teach science and technology and how to ensure their learning in Primary School Education, specifically in the field of the environment, the diversity of living beings and the human body and health.

The aim is to overhaul the usual expository teaching method of science so that primary school teachers

can encourage interest in the study of science and thus promote scientific literacy among citizens, enabling them to deal with the risks and challenges of an increasingly globalized world and preparing them to act towards a sustainable future.

This subject is linked to:

- Natural Sciences for Teachers (2nd year).
- Didactics of Natural Sciences I: Matter, energy and machines (3rd year).
- Practicum III (4th year).

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PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

Students are recommended to successfully have passed the subject Natural Sciences for Teachers (2nd year).

COMPETENCES / LEARNING OUTCOMES

1305 - Degree in Primary School Education

Analyse critically the most relevant issues in today's society that affect family and school education: social and educational impact of audiovisual languages and of screens; changes in gender and inter-gender relations; multicultural and intercultural issues; discrimination and social inclusion, and sustainable development; Also, carry out educational actions aimed at preparing active and democratic citizens, committed to equality, especially between men and women.

Assume that teaching must be perfected and adapted to scientific, pedagogical and social changes throughout life.

Create teaching proposals in relation to the interaction between science, technology, society and sustainable development.

Design, plan and evaluate teaching and learning classroom activities in multicultural and co-educational contexts.

Develop and evaluate curriculum content through appropriate teaching resources and promote the corresponding basic competences in students.

Develop the ability to identify, locate and evaluate sources of information, assess their quality and value and organise information and knowledge based on these sources.

Develop the ability to use scientific language, symbols, concepts and texts to maintain a dialogue with the natural world.

Encourage respectful attitudes towards the preservation of the environment and health.

Express oneself orally and in writing correctly and appropriately in the official languages of the autonomous region.

Identify and plan the resolution of educational situations that affect students with different abilities and different learning rates, and acquire resources to favour their integration.

Know and apply basic educational research methodologies and techniques and be able to design innovation projects identifying evaluation indicators.

Know how to work as a team with other professionals within and outside the school to attend to each student, to plan the learning sequences and to organise work in the classroom and in the play space.

Know the natural science school curriculum.

Know the processes of interaction and communication in the classroom.

Know the scientific methodology and promote scientific thinking and experimentation.

Promote cooperative work and individual work and effort.

Promote interest in and respect for the natural environment through appropriate educational projects.

Promote the competences proposed in the curriculum among students.

Raise and resolve issues of everyday life related to science by applying scientific reasoning.

Recognise the identity of each educational stage and their cognitive, psychomotor, communicative, social and affective characteristics.

Understand that systematic observation is a basic tool that can be used to reflect on practice and reality, and to contribute to innovation and improvement in education.

Understand the basic principles and fundamental theories of sciences: physics, chemistry, biology and geology.

Use information and communication technologies effectively as usual working tools.

DESCRIPTION OF CONTENTS

1.

2.

3.

4.

5.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theoretical and practical classes	36,00
Laboratory	9,00
Total hours	**45,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	0,00
Independent study and work	67,00
Preparation of lessons	0,00
Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	**67,00**

TEACHING METHODOLOGY

Presential activities (around 40%):

- Theoretical-practical classes. Classes in which subject content will be addressed, debates will be held and activities will be carried out using different teaching resources: lectures, seminars, workshops, working groups, etc.; 25-30% ECTS credits; General (a-l) and specific competences (1-11).

- Group work. The purpose of group work is to highlight the importance of cooperative learning and to reinforce individual learning. The presentation of this work can be individual or collective and can be done with the whole group in the classroom or in tutorials and seminars with reduced audiences; 5-10% ECTS credits; General competences (a-l) and specific competences (1-11).

- Tutorials. Individual and group tutorials should serve as a means to coordinate students in individual and group tasks, as well as to evaluate individual progress, activities and teaching methodology; 5% ECTS credits; general (a-e) and specific competences (1-11).

Non-presential activities (around 60%):

Autonomous work and study. The model of the teacher as a researcher in the classroom focuses the student's activity on formulating relevant questions, searching for information, analysis, elaboration and subsequent communication. There will be individual and cooperative work, all of which will be guided, supervised and assessed by the lecturers; 60 ECTS credits; general (a-l) and specific competences (1- 11).

EVALUATION

Both the objectives and competences common to the degree and those specific to each subject will be assessed.

Assessment will be continuous and global, orientative and formative, and will involve an analysis of individual and collective learning processes.

The grade, the final representation of the assessment process, should reflect individual learning, understood not only as the acquisition of knowledge, but also as a process that has to do fundamentally

with intellectual and personal changes in students as they encounter new situations that require them to develop new comprehension and reasoning skills at the same time.

Learning outcomes will be collected mainly by means of the following:

- Periodic monitoring of students' progress, both in the classroom and in individual and group tutorials. ((10-20 %)

- Assessment of assignments, including the analysis and evaluation of observations on work produced by others. (10-20%)

- Assessment of individual and group participation, both in the classroom and in tasks outside the classroom. (20-30%)

- Oral and written assignments. (30-40%)

The student assessment process may include the preparation of a report on the individual's learning achievement.

The plagiarism or improper use of artificial intelligence tools may be sanctioned in accordance with article 15 of the University of Valencia's assessment and grading regulations.

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