COURSE DATA

DATA SUBJECT

Code: 33676
Name: Teaching proposals for sciences
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
1305 - Degree in Primary School Education	Facultat de Formació del Professorat	3	Second quarter
1305 - Degree in Primary School Education	Facultat de Formació del Professorat	4	Second quarter
1339 - Grado en Maestro/a Educación Primaria	Facultat de Formació del Professorat	3	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1305 - Degree in Primary School Education	Specialist in science and mathematics	ELECTIVES
1305 - Degree in Primary School Education	Specialist in science and mathematics	ELECTIVES
1339 - Grado en Maestro/a Educación Primaria	Specialist in inclusive education	ELECTIVES

COORDINATION

TUZON MARCO PAULA

ORTEGA TORRES ENRIC

SUMMARY

This is a semester-long course that is part of the "Specialist in Science and Mathematics" subject, in which the focus is on addressing the challenges of planning, developing, and contextualizing teaching proposals and projects in Science.

The main objective is to ensure that future teachers learn to teach science in a reflective and innovative manner, enabling them to make decisions, plan the teaching and learning process, and present interdisciplinary projects that bring students closer to the subjects of Primary Education, taking into account the contributions of Science Didactics.

The aim is to renew the usual expository teaching method of science so that primary school teachers can foster interest in studying science and thus initiate scientific and technological literacy in new citizens. This will enable them to tackle the risks and challenges of an increasingly globalized world and prepare them to act for a sustainable future.

This course is linked to:

- Natural Sciences for 2nd-year Teachers.
- Didactics of Natural Sciences I and II.
- Practicum II of the 3rd year and Practicum III of the 4th year.
- Didactic proposals in Science and Mathematics.
- ICT as a didactic resource in Science and Mathematics.
- History of ideas and the curriculum in Science and Mathematics.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

General knowledge in science and its didactics, particularly of all the topics and phenomena covered throughout the courses in Primary Education.

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.

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

Develop and evaluate teaching proposals for sciences curriculum contents.

Develop and evaluate teaching proposals for the curriculum in areas other than science and mathematics in which concepts and tools specific to science and mathematics are used.

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 processes of interaction and communication in the classroom.

Promote cooperative work and individual work and effort.

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.

Use information and communication technologies as a teaching resource for science and mathematics in the primary school classroom.

Use information and communication technologies effectively as usual working tools.

DESCRIPTION OF CONTENTS

1. TEACHING PROPOSALS IN SCIENCE

Structure and components of a teaching proposal.
Objectives and requirements of teaching proposals in science.
Scientific competencies: How to develop them through teaching proposals.

2. PREPARATION OF CLASSROOM PROPOSALS

Design and construction of teaching proposals for science teaching by subject area. Contextualization of teaching proposals in the classroom: Adaptation to the course and curriculum.
Teaching proposals inside and outside the classroom.

3. IMPLEMENTATION AND EVALUATION OF TEACHING PROPOSALS

Implementing teaching proposals: How to implement a teaching proposal in live science. Evaluating teaching proposals. Evaluation criteria.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theoretical and practical classes	48,00
Laboratory	12,00
Total hours	**60,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	0,00
Independent study and work	90,00
Preparation of lessons	0,00
Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	**90,00**

TEACHING METHODOLOGY

In-person theoretical and practical classes will cover the subject content, debate, and activities using various teaching resources: lectures, seminars, workshops, work groups, etc.

The purpose of group work is to highlight the importance of cooperative learning and reinforce individual learning. These projects may be defended individually or collectively, and may be done in front of the entire class in the classroom or in tutorials and seminars with small audiences.

Individual and group tutorials will serve as a means to coordinate students in individual and group assignments, as well as to assess individual progress, activities, and teaching methodology.

The classroom research teaching model focuses students' activity on formulating relevant questions, searching for information, analyzing, developing, and then communicating it.

Individual and other cooperative projects will be presented, all guided, supervised, and evaluated by the professor.

EVALUATION

The objectives and competencies common to all subjects in the degree, as well as those specific to this subject, will be assessed.

Student assessment will be carried out through continuous assessment. It will be both guiding and formative in nature, and will analyze individual and collective learning processes. It will also include a face-to-face final exam. Continuous assessment criteria may take into account student participation in class sessions. The following will also be taken into account:

- The completion of all assignments proposed throughout the course and their submission within the established deadlines.
- Appropriate presentation for a future teacher, as well as spelling, vocabulary, and grammar accuracy, and aspects related to the adequacy, coherence, and cohesion of the text.

The final grade for the course will be based on the following weighting: Continuous assessment: between 20% and 50%. Final exam: between 50% and 80%.
The activities that comprise the continuous assessment during the course will be classroom activities that follow up on the course (readings, reflections on materials, presentations, analysis of work, assignments, etc., individual or group). These activities will include a specific component for the development and implementation of teaching proposals, which will not be recoverable. This will account for between 30% and 40% of the continuous assessment grade.

To pass the course in the first sitting, it is necessary to pass the continuous assessment tasks and the final exam.
To pass the course in the second sitting, it is necessary to pass all activities marked as recoverable and the exam.

In any case, the current regulations on assessment and grading of the University of Valencia (2017/18) will apply.
Plagiarism or misuse of artificial intelligence tools may be sanctioned in accordance with Article 15 of the University of Valencia's evaluation and grading regulations.

REFERENCES

- Decree 106/2022, of August 5, of the Consell, establishing the curriculum for Primary Education in the Comunitat Valenciana.

- DE PRO BUENO, A. (2010). Competencia en el conocimiento e interacción con el mundo físico: la comprensión del entorno próximo. Madrid, Ministerio de Educación, Subdirección General de Documentación y Publicaciones.

- FRIELD, A. (2000). Enseñar ciencia a los niños. Barcelona, Gedisa.

- HARLEN, W. (2007). Enseñanza y aprendizaje de las ciencias. Madrid, Ediciones Morata Ministerio de Educación y Ciencia.

- HARLEN, W.; QUALTER, A. (2009). The teaching of Science in Primary Schools. 5 th ed. London, David Fulton Publishers.

- JIMÉNEZ ALEIXANDRE, M.P. y otros (2007). Enseñar Ciencias. 2ª ed., Barcelona, Graó.

- MEMBIELA, P. (ed.) (2001). Enseñanza de las ciencias desde la perspectiva ciencia-tecnología-sociedad. Formación científica para la ciudadanía. Madrid, Editorial Narcea.

- LOZANO, O.R. y SOLBES, J. (2014). 85 experimentos de física cotidiana. Barcelona, Graó.

- PERALES, F.J. (2000). Didáctica de las ciencias experimentales. Alcoy, Editorial Marfil.

- OECD (2000). Measuring student knowledge and skills: The PISA assessment of reading, mathematical and scientific literacy. París, OECD. Traducción de G. Gil Escudero, J. Fernández García, F. Rubio Miguel Sanz, C. López Ramos y S. Sánchez Robles (2001), La medida de los conocimientos y las destrezas de los alumnos: La evaluación de la lectura, las matemáticas y las ciencias en el proyecto PISA 2000. Madrid, INCE/MECD.

- RAMIRO, E. (2010). La maleta de la ciencia. Barcelona, Graó. SEP (2003). Taller de diseño de propuestas didácticas y análisis del trabajo docente I y II. México, Secretaría de Educación Pública.

- School handbooks or textbooks.

- Additional bibliography will be proposed throughout the course.