COURSE DATA

Data Subject	
Code	33619
Name	Mathematics for teachers
Cycle	Grade
ECTS Credits	9.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1304 - Degree in Preschool Education	Faculty of Teacher Training	2	Annual
1305 - Degree in Primary School Education	Faculty of Teacher Training	2	Annual
1324 - Degree in Preschool Education (Ontinyent)	Faculty of Teacher Training	2	Annual

Subject-matter

Degree	Subject-matter	Character
1304 - Degree in Preschool Education	14 - Mathematics for teachers	Obligatory
1305 - Degree in Primary School Education	5 - Mathematics for teachers	Obligatory
1324 - Degree in Preschool Education (Ontinyent)	14 - MATHEMATICS FOR TEACHERS	Obligatory

Coordination

Name	Department
CASTILLO MEDINA, JAIME	85 - Mathematics Education
FERRANDO PALOMARES, IRENE	85 - Mathematics Education

SUMMARY

English version is not available

La asignatura Matemáticas para maestros tiene como finalidad, además de proporcionar un nivel de cultura matemática básica, proporcionar a los futuros maestros competencias en matemáticas que les posibilite analizar, entender y aplicar los contenidos de las matemáticas que se enseñan en las escuelas y que les permita actuar de una manera reflexiva, fundamentada y crítica ante el reto que supone su enseñanza y aprendizaje.

La asignatura de Matemáticas para maestros forma parte, junto con las materias de Didáctica de las Matemáticas (de la enseñanza infantil y primaria) de la formación en matemáticas requerida para los graduados, tanto en maestro de primaria e infantil. No está concebida como una asignatura de repaso de los contenidos de las matemáticas escolares, que los futuros maestros ya cursaron en el pasado, sino como una asignatura que permita completar y obtener una visión de estas matemáticas escolares desde una perspectiva superior, con el fin de: *Conocer los fundamentos matemáticos del curriculum de las matemáticas de Infantil y Primaria* (ECI, BOE 312 de 29/12/2007) y poder plantear y resolver problemas en contexto, incluido el contexto matemático, y no sólo en éste. Esta competencia ECI bien desarrollada en el futuro maestro, *Plantear y resolver problemas matemáticos vinculados con la vida cotidiana*, puede proporcionarle sentido para un futuro enseñante de las matemáticas en la escuela.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

OUTCOMES

1305 - Degree in Primary School Education

- Express oneself orally and in writing correctly and appropriately in the official languages of the autonomous region.
- Use information and communication technologies effectively as usual working tools.
- 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.
- Promote cooperative work and individual work and effort.
- Assume that teaching must be perfected and adapted to scientific, pedagogical and social changes throughout life.
- Know the processes of interaction and communication in the classroom.
- Recognise the identity of each educational stage and their cognitive, psychomotor, communicative, social and affective characteristics.
- Design, plan and evaluate teaching and learning classroom activities in multicultural and co-educational contexts.

- 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 and apply basic educational research methodologies and techniques and be able to design innovation projects identifying evaluation indicators.
- 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.
- 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.
- Acquire basic skills in mathematics: numeracy, calculation, geometry, spatial representation, estimation and measurement, organisation and interpretation of information and probability.
- Know the mathematical principles in the pre-primary and primary education curricula.
- Analyse, reason and communicate mathematical proposals.
- Value the relationship between mathematics and science as one of the pillars of scientific thinking and knowledge.
- Understand mathematics as socio-cultural knowledge.
- Raise and solve mathematical problems related to daily life.
- Use information and communication technologies effectively as usual working tools in mathematics.
- Be familiar with ICT as a classroom teaching resource for mathematics and science.
- Reflect on classroom practicals to innovate and improve teaching. Acquire habits and skills for independent and cooperative learning and promote it in students.
- Maintain a critical and independent approach to knowledge, values and public and private social institutions.
- Know the scientific, mathematical and technological principles of the math curriculum in the stage 3-12 years.
- Know the scientific methodology and promote scientific thinking and experimentation.

1324 - Degree in Preschool Education (Ontinyent)

- Express oneself orally and in writing correctly and appropriately in the official languages of the autonomous region.
- Use information and communication technologies effectively as usual working tools.
- 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; multiculturalism and interculturalism; 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.
- Promote cooperative work and individual work and effort.

- Assume that teaching must be perfected and adapted to scientific, pedagogical and social changes throughout life.
- Know the processes of interaction and communication in the classroom.
- Recognise the identity of each educational stage and their cognitive, psychomotor, communicative, social and affective characteristics.
- Design, plan and evaluate teaching and learning classroom activities in multicultural and co-educational contexts.
- 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 and apply basic educational research methodologies and techniques and be able to design innovation projects identifying evaluation indicators.
- 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.
- 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.
- Acquire basic skills in mathematics: numeracy, calculation, geometry, spatial representation, estimation and measurement, organisation and interpretation of information and probability.
- Know the mathematical principles in the pre-primary and primary education curricula.
- Analyse, reason and communicate mathematical proposals.
- Value the relationship between mathematics and science as one of the pillars of scientific thinking and knowledge.
- Understand mathematics as socio-cultural knowledge.
- Raise and solve mathematical problems related to daily life.
- Use information and communication technologies effectively as usual working tools in mathematics.
- Be familiar with ICT as a classroom teaching resource for mathematics and science.
- Reflect on classroom practicals to innovate and improve teaching. Acquire habits and skills for independent and cooperative learning and promote it in students.
- Maintain a critical and independent approach to knowledge, values and public and private social institutions.
- Know the scientific, mathematical and technological principles of the math curriculum in the stage 3-12 years.

LEARNING OUTCOMES

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WORKLOAD

ACTIVITY	Hours	% To be attended
Theoretical and practical classes	90,00	100
Study and independent work	135,00	0
TOTAL	**225,00**	

TEACHING METHODOLOGY

English version is not available

EVALUATION

English version is not available

REFERENCES

Basic

- Castelnuovo, E.: 1981. La matemática: la geometría, Ed. Ketres, Barcelona.
- Centeno, J.: 1997, Números decimales. Ed. Síntesis, Madrid.
- Godino, Juan D.: 2004, Matemáticas para maestros. Proyecto Edumat-Maestros. http://www.ugr.es/~jgodino/fprofesores.htm
- Gómez, B.: 1988, Numeración y cálculo. Ed Síntesis, Madrid.
- Llinares, C. et al.: 1997, Fracciones . Ed Síntesis, Madrid.
- Musser, G. L. y Burger, W.F. : 1988, Mathematics for Elementary Teachers, MacMillan Publishing Company, New York.
- Puig L. y Cerdán, F.: 1988, Problemas artiméticos escolares. Ed. Síntesis, Madrid.
- Segovia, I. y Rico, L.: 2011, Matemáticas para maestros de educación primaria. Ed. Pirámide, Madrid.
- Sierra,M. et al. (1989). Divisibilidad. Ed. Síntesis, Madrid.
- Ramos, P. (2019). Aritmética para maestros. Ed . Lulú.

Additional

- Otros libros de la colección Síntesis. Matemáticas cultura y aprendizaje.
- Libros de texto de matemáticas de Primaria, Secundaria y Bachillerato (cualquier opción)