

**COURSE DATA****Data Subject**

Code	33654
Name	Teaching arithmetic and problem solving
Cycle	Grade
ECTS Credits	6.0
Academic year	2022 - 2023

Study (s)

Degree	Center	Acad. year	Period
1305 - Degree in Primary School Education	Faculty of Teacher Training	3	Second term

Subject-matter

Degree	Subject-matter	Character
1305 - Degree in Primary School Education	13 - Teaching maths in primary education	Obligatory

Coordination

Name	Department
GARCIA BAYONA, ISMAEL	85 - Mathematics Education
GARCIA MARQUES, MARIA EMILIA	85 - Mathematics Education

SUMMARY**English version is not available**

La asignatura **Didáctica de la aritmética y la resolución de problemas** es una asignatura de carácter semestral de 6 créditos que se imparte en el tercer curso del Grado de Maestro/a en Educación Primaria. Forma parte de una materia de 12 créditos que se denomina Didáctica de las matemáticas de la educación primaria.

La finalidad fundamental de la asignatura está ligada a la competencia específica número 2 de la materia, “analizar didácticamente las matemáticas del currículum escolar”, referida en este caso a los contenidos curriculares de aritmética y resolución de problemas del currículum de primaria.



Sobre este fundamento se despliega transversalmente una serie de actividades relacionadas con diversas competencias, referidas al desarrollo curricular, al conocimiento de los procesos cognitivos, a las dificultades y errores más habituales en las actuaciones de los alumnos y al uso de las TIC, con lo que se contribuye al resto de competencias que figuran en la memoria de verificación del grado.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

Los contenidos y competencias correspondientes a la asignatura Matemáticas para Maestros de segundo curso.

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.
- Know the school math curriculum.
- Analyse didactically the mathematics of the school curriculum.
- Raise and solve mathematical problems.
- Develop and evaluate mathematical contents in the curriculum through appropriate teaching resources.
- Evaluate mathematical contents in the curriculum through appropriate teaching resources.
- Promote the basic mathematical competences proposed in the curriculum among students.
- Know and apply basic methodologies and techniques of educational research to teaching mathematics and be able to design innovation projects identifying evaluation indicators.
- Know the difficulties and errors in the process of teaching and learning mathematics in primary education and the cognitive processes.
- Know teaching interventions that take into account the difficulties and errors in learning mathematics in primary education.
- Analyse ICT as a teaching resource for mathematics.
- Know and implement innovative experiences for teaching mathematics in primary education.
- Design, plan and evaluate the teaching and learning of mathematics in the classroom.

LEARNING OUTCOMES

English version is not available

WORKLOAD

ACTIVITY	Hours	% To be attended
Theoretical and practical classes	60,00	100
Study and independent work	90,00	0
TOTAL	150,00	

TEACHING METHODOLOGY



English version is not available

EVALUATION

English version is not available

REFERENCES

Basic

- Carrillo, J., Contreras, L. C., Climent, N., Montes, M., Escudero, D., y Flores., E. (Coord.) (2016). Didáctica de las matemáticas para maestros de Educación Primaria. Madrid: Paraninfo.
- Castro, E., Rico, L., y Castro, E. (1987). Números y operaciones: Fundamentos para una aritmética escolar. Madrid: Síntesis.
- Centeno, J. (1997). Números decimales. Madrid: Síntesis.
- Chamorro, M. C. (coord) (2003). Didáctica de las matemáticas para primaria. Ed. Pearson Educación.
- Dickson, L; Brown, M & Gibson, O. (1991). El aprendizaje de las matemáticas. (Ministerio de Educación y Ciencia: Madrid).
- Godino et al. (2004). Didáctica de las matemáticas para maestros. Universidad de Granada. <http://www.ugr.es/local/jgodino/fprofesores.htm>
- Gómez, B. (1989). Numeración y cálculo. Madrid: Síntesis.
- Llinares, C. et al. (1997). Fracciones. Madrid: Síntesis.
- Musser, G.L y Burger, W.F. (1988). Mathematics for Elementary Teachers, Publishing Company, New York.
- Puig, L. y Cerdán, F. (1988). Problemas aritméticos escolares. Madrid: Síntesis.
- Sierra, M. et al. (1989). Divisibilidad. Madrid: Síntesis.

Additional

- Libros de texto de Educación Primaria.
- Materiales manipulativos del laboratorio del departamento de Didáctica de la Matemática.