

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

Code	33655
Name	Teaching geometry, measurement and probability and statistics
Cycle	Grade
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1305 - Degree in Primary School Education	Faculty of Teacher Training	4	First term

Subject-matter

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

Coordination

Name	Department
MELCHOR BORJA, CARMEN	85 - Mathematics Education
PLA CASTELLS, MARTA	85 - Mathematics Education

SUMMARY**English version is not available**

La asignatura *Didáctica de la geometría, la medida y la probabilidad y la estadística* es una asignatura de carácter semestral, de 6 créditos, que se imparte en el cuarto curso del Grado de Maestro de Educación Primaria. Forma parte de una materia de 12 créditos denominada *Didáctica de las matemáticas de educación primaria*.

La finalidad principal de la asignatura es promover la adquisición por el estudiantado de las competencias específicas señaladas en el Plan de Estudios de la materia, referidos a los contenidos de geometría, medida, probabilidad y estadística del currículum de Educación Primaria.



La adquisición de dichas competencias se logra mediante el estudio de conocimientos didácticos relacionados con el currículum de matemáticas de Educación Primaria, los procesos cognitivos relacionados con el aprendizaje de las matemáticas y las dificultades, estrategias y errores de los y las estudiantes. Además, el planteamiento y realización de actividades ayudará a la adquisición por el estudiantado de competencias transversales como las relacionadas con el uso de diversos recursos didácticos, entre ellos las TICs, o la resolución de problemas.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

Para la adecuada realización de esta asignatura, es conveniente poseer los conocimientos de contenidos matemáticos correspondientes a la asignatura de Matemáticas para maestros.

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**

- Castelnuovo, E. (1979): La Matemàtica. La Geometria. Barcelona: Ketres.
- Godino, J.D. y otros (2004): Didáctica de las matemáticas para maestros. Granada: Universidad de Granada. Accesible en <www.ugr.es/~jgodino/edumat-maestros>
- Jaime, A.; Gutiérrez, A. (1990): Una propuesta de fundamentación para la enseñanza de la geometría: El modelo de van Hiele, en S. Llinares y M.V. Sánchez (eds.), Teoría y práctica en educación matemática (Alfar: Sevilla), pp. 295-384. Accesible en <www.uv.es/Angel.Gutierrez/>
- Huerta, M. P. (2015). La resolución de problemas de probabilidad con intención didáctica en la formación de maestros y profesores de matemáticas. En C. Fernández, M. Molina y N. Planas (eds.), Investigación en Educación Matemática XIX (pp. 105-119). Alicante: SEIEM.
- 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. Capítulos 5 (Probabilidad y Estadística) y del 6 al 10 (Geometría y visualización)
- Segovia, I. y Rico, L. (2011). Matemáticas para maestros de Educación Primaria. Madrid: Editorial Pirámide.

Additional



- Llibres de text d'Educació Primària
- Cerdán, F., y Huerta, M. P. (2007). Problemas ternarios de probabilidad condicional y grafos trinomiales. Educación Matemática, 19 (1), 27-62.
- Volúmenes nº 5, 7, 13 y 17 de la colección Educación matemática en Secundaria. Madrid: Síntesis
- Volúmenes nº 11 a 19, 27, 28 y 34 de la colección Matemáticas: Cultura y Aprendizaje. Madrid: Síntesis.
- Engel, A. (1988). Probabilidad y Estadística, vols. 1 y 2. Valencia: Mestral