SUBJECT TEACHING GUIDE

G558 - Teaching Arithmetic

Double Degree in Teaching in Early Childhood Education and Primary Education
Degree in Primary Education Teaching

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Double Degree in Teaching in Early Childhood Education and Primary Education		Type and Year	Compulsory. Year 2 Compulsory. Year 2	
Faculty	School of Teacher Training				
Discipline	Subject Area: Teaching and Learning of Mathematics Module: Training in Teaching and the Discipline				
Course unit title and code	G558 - Teaching Arithmetic				
Number of ECTS credits allocated	6	Term		Semester based (1)	
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. MATEMATICAS, ESTADISTICA Y COMPUTACION
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Other lecturers	STEVEN JOHAN MARIA VAN VAERENBERGH IRENE POLO BLANCO OSCAR ARCERA LOPEZ

3.1 LEARNING OUTCOMES
- Know the teaching and learning processes related to the numerical domain.
- Analyze and design didactical units to teach numbers and operations.

4. OBJECTIVES
Know and analyze curriculum guidelines to teach numerical concepts in Primary Education.
Analyze how primary education students learn numerical concepts.
Know and use didactical resources to teach numerical concepts.
Develop the ability to select and design mathematical tasks to teach numerical concepts, justifying the decisions made.
Know and use methodologies for teaching numerical contents for students with special needs in mathematics.

6. COURSE ORGANIZATION	
CONTENTS	
1	Numeracy curriculum: numerical contents in the curriculum of Primary Education. Legal dispositions.
2	Natural numbers. Number systems. Representations and uses of natural numbers. Types of number systems. Materials and resources for teaching the positional number system.
3	Arithmetic operations with natural numbers. Additive and multiplicative structures. Word arithmetic problem solving. Teaching arithmetic operations' algorithms. Analysis and design of teaching activities.
4	Fractions and decimals. Historical development. Representations and models. Situations and contexts.
5	Mental arithmetic. Properties of numbers and operations useful for mental arithmetic. Activities for Primary School
6	Special needs in mathematics education: math activities for 6 up to 12 grades.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
1. Ordinary exam: The final mark will be obtained by adding the mark for the exam (maximum 6 points), the mark for the group work on special needs (maximum 3 points) and the mark for the continuous work (maximum 1 point). It is essential to obtain at leas	Written exam	Yes	Yes	60,00
Work on special needs in mathematics education, 6 up to 12 grades.	Work	No	Yes	30,00
Approximately four activities will be evaluated throughout the semester. Each activity will normally be resolved during one hour of class time.	Work	No	Yes	10,00
TOTAL				100,00

Observations

The final mark is calculated by adding the exam (maximum 6 points) and the continuous evaluation: classroom activities assessment (1 over 10 points) and work on special needs (maximum 3 points). It is required to obtain at least 4 point 10 in the exam.
Students who do not course the subject for the first time will have the same status as part-time students.

Orthography: Correct orthography, grammatical and lexical, is essential to pass the subject.

RULES OF CITATION: APA citation rules, according to the edition appearing in http://www.buc.unican.es/node/9388/

Observations for part-time students

Students enrolled part-time may opt for one of the following two possibilities in the ordinary exam session:
a) Same assessment method as the ordinary exam session for students enrolled full time.
b) A single exam out of 10 points that will contain questions related to any of the subjects of the course.
Due to the fact that the first method contains a group work, they will have to choose the option during the first two weeks of the course and they will not be able to change it.

In the extraordinary exam they will have the same options as full-time students.

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Flores P., Rico L. (2015). Enseñanza y aprendizaje de las matemáticas en Educación Primaria. Ediciones Pirámide.
Segovia, A., Rico, L. (Coords.) (2011). Matemáticas para maestros de Educación Primaria. Ediciones Pirámide.
Diaz Godino, J. (2004). Didáctica de las matemáticas para maestros. http://www.ugr.es/local/jgodino
Chamorro, M.C. (Ed.) (2003). Didáctica de las Matemáticas. Pearson Educación: Madrid
Castro, E. (2001). Didáctica de la matemática en educación primaria. Síntesis: Madrid.
Colección Síntesis Matemáticas: Cultura y Aprendizaje: Castro, E. y otros (1998). Números y operaciones. Centeno, J. (1989). Los números decimales. Llinares, S., Sánchez, V. (1989). Fracciones. Maza, C. (1991). Enseñanza de la suma y la resta. Maza, C. (1991). Enseñanza de la multiplicación y división. Segovia I. y otros, (1989). Estimación en cálculo y medida. Gómez, B. (1988). Numeración y Cálculo. González Mari y otros (1990). Números enteros.