

SUBJECT TEACHING GUIDE

G558 - Teaching Arithmetic

Degree in Primary Education Teaching

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Degree in Primary Education Teaching			Type and Year	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				
Name of lecturer	MARIA JOSE GONZALEZ LOPEZ				
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Other lecturers	JOSE MANUEL DIEGO MANTECON MARIA PILAR SABARIEGO ARENAS IRENE POLO BLANCO				

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.

6. COURSE ORGANIZATION

CONTENTS

1	Numeracy curriculum: numerical contents in the curriculum of Primary Education. Legal dispositions.
2	The concept of number: teaching and learning features. Natural numbers: construction; representation; pre numerical activities; uses of the number.
3	The concept of number: teaching and learning features. Number systems: historical development; types of number systems; positional system of base b; didactical resources for teaching number concepts.
4	The concept of number: teaching and learning features. Additive structure; additive arithmetic problems; informal strategies and algorithms to learn addition and subtraction algorithms.
5	The concept of number: teaching and learning features. Multiplicative structure; multiplicative arithmetic problems; informal strategies to learn multiplication and division algorithms.
6	Fractions and decimals. Historical development. Representations and models. Situations and contexts.
7	Special needs in mathematics education: math activities for 6 up to 12 grades.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Theoretical and practical exam (6 over 10 points).	Written exam	Yes	Yes	60,00
Work on special needs in mathematics education, 6 up to 12 grades.	Work	Yes	No	30,00
Approximately four activities will be presented throughout the semester. Each activity will normally be resolved during one hour of class. Students who have not attended class will have to present the activity via Moodle, considering a deadline which will	Work	No	No	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

Part-time students who do not attend to class, perform a single exam that counts 100% on their mark.

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.

Díaz 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.