

SUBJECT TEACHING GUIDE

G1746 - Development and Teaching of Mathematical Reasoning

Degree in Early Childhood Education

Academic year 2022-2023

| 1. IDENTIFYING DATA | | | |
|----------------------------------|--|------------------|--------------------|
| Degree | Degree in Early Childhood Education | Type and Year | Compulsory. Year 2 |
| Faculty | School of Teacher Training | | |
| Discipline | Subject Area: Learning of Natural Sciences, Social Sciences and Mathematics Module: Training in Teaching and the Discipline | | |
| Course unit title and code | G1746 - Development and Teaching of Mathematical Reasoning | | |
| Number of ECTS credits allocated | 6 | Term | Semester based (2) |
| Web | | | |
| Language of instruction | English | Mode of delivery | Face-to-face |

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| Department | DPTO. MATEMATICAS, ESTADISTICA Y COMPUTACION | | |
| Name of lecturer | JOSE MANUEL DIEGO MANTECON | | |
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| Other lecturers | | | |

3.1 LEARNING OUTCOMES

- To know the genesis and development of mathematical concepts in young children
- To be able to elaborate mathematical activities for preschool education
- To be able to connect and develop specific mathematical content in preschool education

4. OBJECTIVES

- To master the mathematical content of the preschool education curriculum
- To foster students' reflection about their knowledge on mathematics in learning and teaching contexts .
- To gain an initial preparation in the development of mathematical activities for preschool education
- To know the genesis and development of mathematical concepts , especially those that appear in the preschool education curriculum

6. COURSE ORGANIZATION

| CONTENTS | |
|----------|---|
| 1 | Introduction to the Teaching of Mathematics in Early Childhood Education. |
| 2 | Introduction to logic and logical-mathematical reasoning in children. Analysis and design of teaching proposals. |
| 3 | Natural number, numbering systems, and arithmetic operations. Numbers and operations in children. Analysis and design of teaching proposals on this topic |
| 4 | General aspects of space and geometry. Space and geometry in the period of 3 to 6-year-old. Analysis and design of teaching proposals on this topic. |
| 5 | Instruction to magnitudes and their measurement. The study of magnitudes and their measurement in Early Childhood Education. Analysis and design of teaching proposals on this topic. |

7. ASSESSMENT METHODS AND CRITERIA

| Description | Type | Final Eval. | Reassessn | % |
|--|--------------|-------------|-----------|--------|
| Midterm Exam (First part of the content) | Written exam | No | Yes | 50,00 |
| Final Exam | Written exam | Yes | Yes | 50,00 |
| TOTAL | | | | 100,00 |
| Observations | | | | |
| <p>First enrollment students:</p> <p>The final exam will include part 1 and part 2 of the content. Each part will be independently qualified.</p> <p>The students obtaining 4 points or more (out of 10) in the exam of part 1 (undertaken in the middle of term) will not have to necessary examine of the part 1 content in the final exam.</p> <p>Students not passing the subject in the regular period (June) will be able to take a new exam in the extraordinary period (September). This exam will include all the subject content.</p> <p>Students with second enrollment or more:</p> <p>Students who do not enroll for the first time in the subject have the same consideration as students registered part-time (see the corresponding observations).</p> <p>Other aspects to take into account:</p> <ul style="list-style-type: none"> - SPELLING: the correct spelling and grammar in the assessments are requirements for passing the course. - PLAGIARISM: The point 54.1 of the Regulation of the evaluation processes at the University of Cantabria is recalled— 'The fraudulent conduct in tests and evaluation activities will directly imply the mark fail (0) in the subject'. <p>CITATION RULES:</p> <p>Finally, the School Board approved that the Faculty assumes the APA RULES for all academic work as citation criteria . Although these standards have different editions , as an initial reference we attach the BUC link, hoping that this will be helpful and a reference for its development: http://web.unican.es/buc/recursos/guias-y-tutoriales/guia ? g = 28</p> | | | | |
| Observations for part-time students | | | | |
| The final mark for part time students will be obtained from a single exam (100% of the evaluation). | | | | |

8. BIBLIOGRAPHY AND TEACHING MATERIALS

| BASIC |
|---|
| <p>Yáñez, J. C., Catalán, M. D. L. C. M., Pastells, ... & Muñoz, Y. M. V. (2018). Didáctica de las matemáticas para maestros de Educación Infantil. Ediciones Paraninfo, SA.</p> <p>Castro, E., & Martínez, E. C. (Eds.). (2016). Enseñanza y aprendizaje de las matemáticas en educación infantil. Pirámide.</p> |