



Information about the subject

Degree: Bachelor of Arts Degree in Early Childhood Education

Faculty: Faculty of Teacher Training and Education Sciences

Code: 1410304 **Name:** Mathematics and its Teaching

Credits: 6,00 **ECTS Year:** 3 **Semester:** 1

Module: Learning the natural sciences, social sciences and mathematics

Subject Matter: Learning mathematics **Type:** Compulsory

Department: -

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:



Module organization

Learning the natural sciences, social sciences and mathematics

Subject Matter	ECTS	Subject	ECTS	Year/semester
Learning mathematics	6,00	Mathematics and its Teaching	6,00	3/1
Learning of natural sciences	4,50	Natural Sciences and their Teaching	4,50	4/1
Learning of social sciences	4,50	Social Sciences and their Teaching	4,50	4/1



Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1 The student makes clear and detailed oral and written descriptions and presentations, developing concrete ideas and ending with appropriate conclusions while maintaining a high degree of grammatical, syntactic and orthographic correctness.
- R2 The student integrates and develops logical-mathematical notions in any of the areas of the Early Childhood Education stage.
- R3 The student uses appropriate information from different sources to carry out his/her tasks and cites bibliographic references in accordance with APA standards.
- R4 The student values mathematics as a cultural fact.
- R5 The student participates actively in the tasks proposed in class.
- R6 The student knows and is able to give examples and counterexamples of basic mathematical concepts in the areas of geometry, sets, arithmetic and measurement.
- R7 The student designs and proposes activities and resources to work the different mathematical contents of the Early Childhood Education curriculum appropriate to the different levels, taking into account their own characteristics as well as the difficulties and mistakes that children can make.
- R8 The student justifies the suitability of their proposed activities taking into account the characteristics of children's thinking and the different theories of teaching and learning mathematics.



Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

GENERAL		Weighting			
		1	2	3	4
G1	To know the objectives, curricular contents and evaluation criteria of Early Childhood Education.			X	
G2	To promote and facilitate learning in early childhood, from a globalizing and integrating perspective of the different cognitive, emotional, psychomotor and volitional dimensions.			X	
G3	To design and regulate learning spaces in contexts of diversity that address the unique educational needs of students, gender equality, equity and respect for human rights.		X		
G6	To know the evolution of language in early childhood, know how to identify possible dysfunctions and ensure their correct evolution. To deal effectively with language learning situations in multicultural and multilingual contexts. Express themselves orally and in writing and master the use of different techniques of expression.			X	
G11	To reflect on classroom practices to innovate and improve teaching. To acquire habits and skills for autonomous and cooperative learning and promote it in students.		X		
SPECIFIC		Weighting			
		1	2	3	4
E35	To know the scientific, mathematical and technological foundations of the curriculum of this stage as well as the theories on the acquisition and development of the corresponding learning.				X
E36	To know didactic strategies to develop numerical representations and spatial, geometric and logical development notions.				X
E37	To understand mathematics as sociocultural knowledge.			X	
E40	To know the most outstanding moments in the history of science and technology and their transcendence.			X	



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| E41 | To elaborate didactic proposals in relation to the interaction between science, technology, society and sustainable development. | | | | X |
| E42 | To promote interest and respect for the natural, social and cultural environment through appropriate educational projects. Encourage experiences of initiation to information and communication technologies. | | X | | |



Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4, R5, R6, R7, R8	80,00%	Written test: Final summative or continuous theoretical and practical test (open questions, objective test questions, truncated exam, etc.). Preparation of fieldwork memorandums. Solution of case studies, single case, etc.
R1, R2, R3, R4, R5, R6, R7, R8	15,00%	Oral presentation of group and individual work.
	5,00%	Individual monitoring of attendance at face-to-face sessions and active participation in theoretical and practical classes, seminars and tutorials.

Observations

Is mandatory for the overcoming of the subject to pass sections written examination, worksheet elaboration and oral presentation. Is mandatory for the overcoming of the subject that the student does not make more than 3 serious spelling mistakes in each written proof (such as works or written exam)

It is an essential requirement to pass the subject to obtain at least a 5 in the exam, an average of 5 in the other two sections of the written test and a 5 in the oral presentation.

The written test will consist of an exam with a weight of 50% of between 5 and 7 questions with subsections. Among the types of questions there will be one for the identification of content worked on in a file and to develop manipulative activities to work on said content, true/false questions in which the answer must be justified and other theoretical-practical questions that may involve the description and use of teaching materials.

This section will include the completion of two or three works that will have a weight of 15% in which the knowledge acquired in the different blocks of the subject is applied, and various classroom practices with a weight of 15%.

It is an essential requirement to pass the subject that the student does not commit more than 3 faults. Severe spelling in each written test (both assignments, classroom practices and theoretical-practical exam).

The grades of the passed parts of one course are not saved for another.

The delivery of the works and practices must be done in a punctual way within the periods established by the professor of the subject.



Single assessment

Exceptionally, those students who, in a justified and accredited manner, cannot submit to the continuous evaluation system, request it within the first month of each semester to their teacher and receive their approval, may opt for this evaluation system. In this case it will be evaluated as follows:

- Exam: With the same format described above and will account for 70% of the course grade.
- Work on the design of activities and materials: will account for 15% of the grade.
- Oral presentation of individual or group work: it will account for 15% of the grade.

CRITERIA FOR THE AWARDING OF HONOURS:

In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with 9 Distinction) may be awarded. Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

- M1 PARTICIPATIVE MASTERCLASS
- M2 CLASSROOM PRACTICES
- M6 PROBLEM-BASED LEARNING
- M7 GROUP TUTORING
- M8 INDIVIDUAL TUTORING



IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Presentation of content by the teacher, analysis of competences, explanation and demonstration of skills, abilities and knowledge in the classroom. M1	R1, R2, R4, R5, R6	27,00	1,08
Group work sessions supervised by the teacher, case studies, diagnostic analyses, problems, field studies, computer classroom, visits, data searches, libraries, network, Internet, etc. Meaningful construction of knowledge through student interaction and activity. M2	R1, R2, R3, R4, R5, R6, R7, R8	13,50	0,54
Presentation in plenary. Application of interdisciplinary knowledge M2, M7, M8	R1, R2, R3, R4, R5, R6, R7, R8	8,00	0,32
Personalised attention in small groups. Period of instruction and/or guidance by a tutor with the aim of reviewing and discussing the materials and topics presented in classes, seminars, readings, assignments, etc. M7, M8	R1, R2, R4, R5, R6, R7, R8	7,00	0,28
Set of oral and/or written tests used in the initial, formative or summative assessment of the student. M2	R1, R2, R3, R4, R5, R6, R7, R8	4,50	0,18
TOTAL		60,00	2,40



LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
Group preparation of readings, essays, problem solving, seminars, papers, reports, etc. to present or deliver in theory classes, practical classes and/or small group tutorials. Work done on the platform or other virtual spaces. M2, M7	R1, R2, R3, R4, R5, R6, R7, R8	36,00	1,44
Student study: Individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. to present or deliver in theory classes, practical classes and/or small group tutorials. Work done on the platform or other virtual spaces. M2, M8	R1, R2, R3, R4, R5, R6, R7, R8	54,00	2,16
TOTAL		90,00	3,60



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
INTRODUCTION	We will study the importance of logical-mathematical on cognitive development and the main features of logical-mathematical. Analysis of the mathematics content of the curriculum of the Child Education. We will see the objectives and content established in the curriculum of Child Education.
GEOMETRY	Includes the main geometric concepts that appear in early childhood education as well as teaching materials and resources for teaching geometry. Enforcement activities will be conducted.
SETS	We will see the main concepts of sets that appear in early childhood education as well as teaching materials and resources for teaching. Enforcement activities will be conducted.
NUMBERS	We will study the main concepts of creation of the concept of numbers that appear in early childhood education as well as teaching materials and resources for teaching. Enforcement activities will be conducted.
MEASURE	We will introduce the main concepts of measure as they appear in early childhood education as well as teaching materials and resources for teaching. Enforcement activities will be conducted



Temporary organization of learning:

Block of content	Number of sessions	Hours
INTRODUCTION	5,00	10,00
GEOMETRY	6,00	12,00
SETS	6,00	12,00
NUMBERS	7,00	14,00
MEASURE	6,00	12,00



References

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