



Universitat de Lleida

DEGREE CURRICULUM **LEARNING MATHEMATICS**

Coordination: RICART ARANDA, MARIA

Academic year 2021-22

Subject's general information

Subject name	LEARNING MATHEMATICS			
Code	100759			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Bachelor's Degree in Pre-School Education	3	COMPULSORY	Attendance-based
	Double bachelor's degree: Degree in Pre-school Education and Degree in Primary Training	3	COMPULSORY	Attendance-based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	PRAULA		TEORIA
	Number of credits	1.8		4.2
	Number of groups	3		3
Coordination	RICART ARANDA, MARIA			
Department	MATHEMATICS			
Important information on data processing	Consult this link for more information.			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
RICART ARANDA, MARIA	maria.ricartaranda@udl.cat	18	

Learning objectives

LEARNING OBJECTIVES

1. Acquire fundamental mathematical knowledge to understand the world.
2. Reason and communicate the school mathematics.
3. Know the school curriculum.
4. Know and apply mathematical and didactic aspects of logic, numeration, calculus, geometry, measurement, statistics and probability.
5. Manage the appropriate information and use it in the design and assessment of learning units.
6. Critically incorporate innovation and educative technology in the teaching practice.
7. Cooperatively solve tasks of study content and school learning.
8. Become aware of the own teaching practice.
9. Become aware of the formative assessment in mathematics.

Competences

CG1 Correct oral and written communication.

CG3 Command of Information and Communication Technologies.

CG7 Manage the appropriate information for the development of the functions of the profession. Knowing and understanding the changing social reality in which he develops his educational work. Recognize changes in society and know how to evolve with them. Know how to change.

CE1 Know the objectives, curricular content and evaluation criteria of Early Childhood Education.

CE3 Design and regulate learning spaces in diverse contexts that meet the unique educational needs of students, gender equality, equity and respect for human rights.

CE5 Reflect in a group on the acceptance of norms and respect for others. Promote the autonomy and uniqueness of each student as factors in the education of emotions, feelings and values in Early Childhood.

CE11 Reflect on classroom practices to innovate and improve teaching. Acquire habits and skills for autonomous and cooperative learning and promote it in students.

Subject contents

SUBJECT CONTENTS

1. Construction and assessment of the pre-school mathematical knowledge.
2. The mathematical school curriculum in pre-school education.
3. Logic.
4. Notion of quantity, numbers and operations.
5. Measurement.
6. Geometry.
7. Statistics and Probability.

Themes 1 and 2 will be worked on transversally with the other themes.

Methodology

CLASSROOM HOUR

- Exposition of the subject's content
- Exposition and discussion of students' work.
- Practical activities (analysis of didactic proposals, tasks, problem solving, workshops with manipulative resources ...)

NOTE: For the workshops, students must bring different materials from home. For example:

- caps (from bottles...) of different colors and sizes (month of September)
- macaroni (month of October)
- containers of different shapes (boxes of cookies, colognes, creams, jars ...) (month November / December)
- plasticine, paint ...

VIRTUAL HOURS

- Practical activities (analysis of didactic proposals, tasks or problem solving)

NON-CLASSROOM HOURS

- Study of the theoretical and practical contents.
- Carrying out assessment tasks in a group.
- Carrying out tasks (of consolidation, recommendation...)
- Readings of the recommended texts and elaboration of the related tasks.

Development plan

WEEK	DESCRIPTION	CLASS TASKS	HOMEWORK
1	Introduction	Participation in classroom and virtual tasks	<ul style="list-style-type: none"> • Writing
1-6	<ul style="list-style-type: none"> • Logic • Notion of quantity, numbers and operations 	Participation in classroom and virtual tasks	<ul style="list-style-type: none"> • Recommended activities. • Study of the theoretical and practical contents. • Joc Heurístic and Panera dels Tresors Activities • Problem solving • Article reading

6-8	Notion of quantity, numbers and operations	Participation in classroom and virtual tasks	<ul style="list-style-type: none"> • Problem solving • Recommended activities • Study of the theoretical and practical contents
8-11	Measurement	Participation in classroom and virtual tasks	<ul style="list-style-type: none"> • Recommended activities • Study of the theoretical and practical contents
8	CONTROL EXAM		
11-13	Geometry	Participation in classroom and virtual tasks	<ul style="list-style-type: none"> • Recommended activities • Study of the theoretical and practical contents
11-12	PRESENTATION DIDACTIC VIDEO		
14-15	Data analysis and probability	Participation in classroom and virtual tasks	<ul style="list-style-type: none"> • Recommended activities • Study of the theoretical and practical contents
Period of activities assessment (According to the exam calendar of the faculty)	FINAL EXAM		
Period of activities assessment (According to the exam calendar of the faculty)	PRESENTATION MiniDU		
Period of activities assessment (According to the exam calendar of the faculty)	RESIT EXAM		

Evaluation

ACTIVITY	DEGREE	APPROXIMATE DATE	PLACE AND FINAL DATE
Control Exam (15%)	GESTIONS CREATIVES TARDA DOUBLE DEGREE	From 1 to 7 November 2021	Consult UdL Virtual Campus
Group task: Didactic Video (20%)	GESTIONS CREATIVES TARDA DOUBLE DEGREE	From 22 to 28 November 2021	Consult UdL Virtual Campus
Final Exam (40%)	GESTIONS CREATIVES TARDA DOUBLE DEGREE	Period of activities assessment (According to the exam calendar of the faculty)	Consult UdL Virtual Campus http://www.educacioinfantil.udl.cat/ca/
Group task: MiniDU (25%)	GESTIONS CREATIVES TARDA DOUBLE DEGREE	Period of activities assessment	Consult UdL Virtual Campus
Resist Exam (40%)	GESTIONS CREATIVES TARDA DOUBLE DEGREE	Period of activities assessment (According to the exam calendar of the faculty)	Consult UdL Virtual Campus http://www.educacioinfantil.udl.cat/ca/

1. To pass the course, the final grade must be greater or equal to 5 and the final exam grade must be greater or equal to 5.

2. If the final exam grade is equal or superior to 5, the final grade of the course will be the following:

$$\text{Control exam grade} \times 0.15 + \text{final exam grade} \times 0.4 + \text{video grade} \times 0.2 + \text{MiniUD grade} \times 0.25$$

3. If the final exam grade is lower than 5, the student may perform a resist exam.

Resist exam

The resist exam will be assessed on 10 points. At least five points must be scored to pass. However, the final grade of the resist exam will be as follows (Table 2):

Table 2. Final grade of the resist exam

Points of the resist exam over 10	Final grade of the resist exam	Final exam grade_2
[5,7)	5	5
[7,8'5)	5'5	5'5
[8'5, 10]	6	6

Points of the resist exam over 10	Final grade of the resist exam
[0,5)	Points of the resist exam over 10

- If the points of the resist exam over 10 points **are less than 5**, the student will fail the course and, the final grade of the course will be:

Final grade of the resist exam

- If the grade of the resist exam over 10 points **is equal or superior to 5**, the final grade of the course will be calculated as follows:

$$\text{Control exam grade} \times 0.15 + \text{Final exam grade}_2 \times 0.4 + \text{video grade} \times 0.2 + \text{MiniUD grade} \times 0.25$$

To pass the course, the final grade must be greater or equal to 5.

4. Alternative evaluation

ALTERNATIVE EVALUATION			
ACTIVITY	DEGREE	APROXIMATE DATE	PLACE AND FINAL DATE
FINAL EXAM	GESTIONES CREATIVAS TARDE DOUBLE DEGREE	Period of activities assessment (According to the exam calendar of the faculty)	Consult Campus Virtual
INDIVIDUAL TASK: DU	GESTIONS CREATIVES TARDA DOUBLE DEGREE	Period of activities assessment (According to the exam calendar of the faculty)	Consult Campus Virtual

- The final grade of the course will be calculated as follows:

$$\text{Exam grade} \times 0.75 + \text{work grade} \times 0.25$$

To pass the course, the final grade must be greater or equal to 5 and the exam grade must be greater or equal to 5.

5. Other questions

- Exams will be face-to-face in the university.
- It's compulsory to deliver all evaluative activities on the final date.
- If plagiarism or little originality is detected in a work, it will appear that it has not been presented.
- If the final exam grade is equal or greater than 9, it could be *m.h.*
- In order to be able to take an exam, the student's card must be submitted to the teacher by the beginning of the course.
- In hours of class, the teacher will give more details on the work to deliver.
- In the virtual campus, it will be informed, as soon as possible, of the definitive dates of the activities.

- In the virtual campus, you will find the information about the work to be delivered once you have been informed in the classroom.

Bibliography

- Alsina, A. (2004). *Com desenvolupar el pensament matemàtic de 0 a 6 anys*. Propostes didàctiques. Ed. Eumo. Vic
- Alsina, A. (2011). *Educación Matemática en contexto: de 3 a 6 años*. Barcelona: Horsori
- Alsina, A. Planas, N. (2009). *Educación matemática y buenas prácticas*. Ed. Graó.
- Alsina, C. (2000). *Estimar les matemàtiques*. Barcelona: Columna.
- Alsina, C y d'altres (1995). *Ensenyar matemàtiques*. Barcelona: Graó.
- Arce, M., Conejo, L. & Muñoz, J.M. (2019). *Aprendizaje y enseñanza de las matemáticas*. Editorial Síntesis.
- Arteaga, B. & Macías, J. (2016). *Didáctica de las matemáticas en Educación Infantil*. Logroño: Unir Editorial.
- Biniés, P.(2008). *Converses matemàtiques amb M. Antònia Canals*. Barcelona: Graó.
- Canals M. A (2000). *Viure les matemàtiques de 3 a 6 anys*. Barcelona: Rosa Sensat.
- Canals M. A. (2009). *Primers nombres i primeres operacions*. Barcelona: Rosa Sensat.
- Canals M. A. (2009). *Lògica a totes les edats*. Barcelona: Rosa Sensat.
- Canals M. A. (2009). *Mesures i geometria*. Barcelona: Rosa Sensat.
- Clements, D. & Sarama, J. (2015). *El aprendizaje y la Enseñanza de las Matemáticas a Temprana Edad: El Enfoque de las Trayectorias de Aprendizaje*. Learning Tools LLC.
- Chamorro, M.C. (Coord.) (2005). *Didáctica de la matemática en Ed. Infantil*. Madrid: Pearson
- Departament d'Ensenyament. (2008). *Currículum Ed. Infantil*. Barcelona: Generalitat de Catalunya
- Muñoz-Catalán, M. C. & Carrillo, J. (Coord.) (2018). *Didáctica de las matemáticas para maestros de Educación Infantil*. Madrid: Paraninfo, S. A.
- National Council of Teachers of Mathematics (NCTM). (2020). *Principios y estándares para la educación matemática*. Sevilla: Sociedad Andaluza de Educación Matemática Thales.
- <http://www.ugr.es/~jgodino/edumat-maestros/welcome.htm>
- <http://www.xtec.cat/>
- <http://clic.xtec.cat/ca/act/index.htm>
- <http://www.edu365.cat/primaria/muds/matematiques/index.htm>
- http://www.edu3.cat/Edu3tv/Cerca?p_amb=4021
- <http://nlvm.usu.edu/es/nav/vlibrary.html>