Teaching Guide				
Identifying Data				2014/15
Subject (*)	Educación matemática I		Code	652G02008
Study programme	Grao en Educación Primaria			
Descriptors				
Cycle	Period	Year	Type	Credits
Graduate	2nd four-month period	First	Obligatoria	6
Language	SpanishGalician			
Prerequisites				
Department	Pedagoxía e Didáctica			
Coordinador	Naya Riveiro, Maria Cristina	E-mail	cristina.naya@udc.es	
Lecturers	Naya Riveiro, Maria Cristina Soneira Calvo, Carlos Torre Fernandez, Enrique de la	E-mail	cristina.naya@udc.es carlos.soneira@udc.es enrique.torref@udc.es	
Web				
General description	Nesta materia preténdese describir e analizar os procesos que interveñen na aprendizaxe das matemáticas na Educación Primaria, así como coñecer métodos, técnicas e recursos para o seu traballo na aula. Tamén se quere mostrar o papel que representa a matemática na sociedade actual, o seu papel ao longo da historia e o papel que xoga no camiño cara a unha educación crítica.			

Study programme competences	
Code	Study programme competences
A38	Adquirir competencias matemáticas básicas (numéricas, cálculo, xeométricas, representacións espaciais, estimación e medida, organización e interpretación da información, etc.).
A39	Coñecer o currículo escolar de matemáticas. Analizar, razoar e comunicar propostas matemáticas.
A40	Formular e resolver problemas vinculados coa vida cotiá.
A41	Valorar a relación entre matemáticas e ciencias como un dos pilares do pensamento científico.
A42	Desenvolver e avaliar contidos do currículo mediante recursos didácticos apropiados e promover as competencias correspondentes nos estudantes.
B1	Aprender a aprender.
B2	Resolver problemas de forma efectiva.
B3	Aplicar un pensamento crítico, lóxico e creativo.
B4	Traballar de forma autónoma con iniciativa.
B5	Traballar de forma colaborativa.
B8	Capacidade para elaborar discursos coherentes e organizados loxicamente.
B9	Capacidade para expoñer as ideas elaboradas, de forma oral e na escrita.
B10	Capacidade de expresión oral e escrita en varias linguas (a lo menos nunha lingua estranxeira).
B11	Capacidade de comprensión dos distintos códigos audiovisuais e multimedia e manexo das ferramentas informáticas.
B12	Capacidade de selección, de análise, de avaliación e de utilización de distintos recursos na rede e multimedia.
B15	Capacidade para utilizar diversas fontes de información, seleccionar, analizar, sintetizar e extraer ideas importantes e xestionar a información.
B18	Compromiso ético para o exercicio das tarefas docentes.
B19	Capacidade de adaptarse a novas situacións nunha sociedade cambiante e plural.
C1	Expresarse correctamente, tanto de forma oral coma escrita, nas linguas oficiais da comunidade autónoma.
C3	Utilizar as ferramentas básicas das tecnoloxías da información e as comunicacións (TIC) necesarias para o exercicio da súa profesión e para a aprendizaxe ao longo da súa vida.
C4	Desenvolverse para o exercicio dunha cidadanía aberta, culta, crítica, comprometida, democrática e solidaria, capaz de analizar a realidade, diagnosticar problemas, formular e implantar solucións baseadas no coñecemento e orientadas ao ben común.
C6	Valorar criticamente o coñecemento, a tecnoloxía e a información dispoñible para resolver os problemas cos que deben enfrontarse.
C7	Asumir como profesional e cidadán a importancia da aprendizaxe ao longo da vida.

C8	Valorar a importancia que ten a investigación, a innovación e o desenvolvemento tecnolóxico no avance socioeconómico e cultural da sociedade.

Learning outcomes			
Subject competencies (Learning outcomes)	Study programme competences		
Boost and develop the knowledge of basic mathematical concepts.	A38	B1 B2 B3 B4 B5 B8 B9 B10 B11 B12 B15 B18 B19	C1 C3 C4 C6 C7 C8
The mathematicians in the school curriculum of the Primary Education.	A39	B1 B2 B3 B4 B8 B9 B10 B11 B12 B15 B18 B19	C1 C3 C4 C6 C7 C8
With the aim that the students experience the utility of the mathematicians in the world that surrounds them day to day, will resolve mathematical problems and no propiamente mathematicians.	A40	B1 B2 B3 B4 B5 B8 B9 B10 B11 B12 B15 B18 B19	C1 C3 C4 C6 C7 C8

Evaluate and analyze the teaching and the learning of the mathematicians in the stage of Primary Education using didactic resources.	A42	B1 B2 B3 B4 B5 B8 B9 B10 B11 B12 B15 B18 B19	C1 C3 C4 C6 C7 C8
O progreso científico, en todas as súas ramas, require unha estreita e forte interacción coa matemática; de aquí a necesidade de valorar a forte e longa relación entre a matemática e a ciencia.	A41	B1 B2 B3 B4 B5 B8 B9 B10 B11 B12 B15 B18 B19	C1 C3 C4 C6 C7 C8

Contents	
Topic	**Sub-topic**
The mathematics and his relation with the culture and the society.	The mathematics in the culture. The mathematics in the society. The mathematics like tool for the sustainability.
The mathematics through the history.	The mathematics in the Prehistory, in the Ancient Age, in the Half Age, in the Modern Age and in the Contemporary Age.
The education and the learning of the mathematics in the stage of Primary Education.	School curriculum. Models of learning and education. Development of school mathematical competitions.
Resources and materials for the education of the mathematics.	Mathematical tasks. Didactic material.
The natural numbers. The systems of numbering.	Development of the concept of number. Systems of numbering.
The addition and the subtraction.	Initiation to the problems of calculation. Additive and substractive problems . The algorithms.
The multiplication and the division.	Multiplicative and division problems. Algorithms. The calculator in the classroom.

Planning

Methodologies / tests	Ordinary class hours	Student?s personal work hours	Total hours
Research (Research project)	0	20	20
Guest lecture / keynote speech	21	31.5	52.5
Laboratory practice	21	21	42
Mixed objective/subjective test	3	10.5	13.5
Workbook	0	6	6
Oral presentation	0.5	2	2.5
Multiple-choice questions	0.5	7	7.5
Critical bibliographical	0	2	2
Online forum	0	2	2
Personalized attention	2	0	2
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	
Methodologies	Description
Research (Research project)	Extensive work, realised in group, on a subject of interest and actuality. The subject will be defined to way of question and in the development of the work will try answer and discover knowledges. It will present in way of report written and later will be exposed to all the class in 'oral Presentation'.
Guest lecture / keynote speech	Exhibition of the distinct subjects by part of the professors, looking for present the information and motivate the study and the work.
Laboratory practice	Work in the classroom, in groups reduced, on concrete appearances of the different subjects, following scripts more or less open, and with the help of materials.
Mixed objective/subjective test	Proof written (examination) where combine open and enclosed questions. In principle it refers to the final examination of the matter, although it can have other lower proofs along the course.
Workbook	Material writing that proposes to the students to know different questions of the temario.
Oral presentation	Exhibition in the classroom of the Project of investigation realised by each one of the groups.
Multiple-choice questions	Compulsory test for each one of the subjects, that will do when finalising the work in class of each one of the subjects of the course. The dates for his realisation will communicate to the start of the course and will realise through the virtual platform.
Critical bibliographical	Analysis of the mathematical contents and proposal of activities, on a book of appropriate reading for students of Primary Education.
Online forum	Participation in a social network of the matter, where each student will propose subjects and will comment the proposed by other students.

Personalized attention	
Methodologies	Description
Research (Research project) Laboratory practice Mixed objective/subjective test Oral presentation	The personalised attention describes around these methodologies like moments of face-to-face work with the professor by what asks a compulsory participation of the student. The form and the moment in that they develop will indicate in relation to each activity along the course according to the plan of work of the matter.

Assessment		
Methodologies	Description	Qualification

Research (Research project)	Work in team on a subject of interest, in that it will stand out the paper of the mathematics. Will take into account the difficulty of the subject chosen, the methodology been still in his realisation, the exhibition of the results found and the argumentation of the conclusions, between other things.	15
Laboratory practice	Will take into account the participation, the interest showed, the realisation reasoned of the tasks,...	10
Mixed objective/subjective test	It will value the exhibition and argumentation realised in each one of the proofs.	40
Oral presentation	It will value the clarity, skill to present the information and the communication of results and conclusions.	5
Online forum	Each student will propose a forum of debate, around a news or event and will participate in forums proposed by other students.	3
Multiple-choice questions	When finalising each subject will establish a short space of time (some 2 hours) in which each student will connect to the virtual platform to realise the test. Once initiated the test will have of 2 minutes to realise it, without possibility to repeat it. The calendar of realisation of this test will be available to the start of the course. The test of each one of the subjects will consist of 5 questions each one with three options of answer. Each correct answer will cost two points and each wrong answer will subtract a point.	20
Critical bibliographical	Each student has to choose a book of appropriate reading for a student of Primary Education and analyse his mathematical content and also propose activities dobre this book, to realise in the classroom.	7

Assessment comments
The faults of spelling in the works and material presented will reduce the final punctuation. The assistance considers compulsory. It will be necessary to obtain a minimum note of 4 points on 10 in the final examination (mixed Proof) to be able to do average with the other activities evaluables, according to the further up indicated planning. The student that do not assist to 80% of the classes, will not be evaluated by means of the previous system. It will be evaluated by means of a final examination (80%) and the realisation of the test of each subject (20% the average of the 7 test), constituting this conjoint note the final qualification of this matter. If you did not take to class and realise the works programmed (Investigation, oral Presentation, Reviewing and Forum), the evaluation of these works will suppose 15% of the final qualification, the average of the test another 15% and the examination 70%.

Sources of information	
Basic	- (). .
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Educación matemática II/652G02018 Educación matemática III/652G02024 Resolución de problemas en matemática/652G02030
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments