Universidad Zaragoza

Year : 2019/20

26626 - Didactics: Arithmetic II

Syllabus Information

Academic Year: 2019/20
Subject: 26626 - Didactics: Arithmetic II
Faculty / School: 107 -
202 -
301 -

Degree: 300 - Degree in Primary School Education
298 - Degree in Primary School Education
299 - Degree in Primary School Education

ECTS: 6.0
Year: 300 - Degree in Primary School Education: 3
299 - Degree in Primary School Education: 3
298 - Degree in Primary School Education: 3

Semester: 298 - First semester
298 - First semester
299 - First semester
300 - First semester
Subject Type: Compulsory
Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

1. The student rebuilds his knowledge referring to positive rational number and the measure of continuous quantities in Primary Education by adapting them to the professional needs of teachers.

2. The student enunciates and solves adequate arithmetic problems to introduce the different representation systems of positive rational number (fraction, decimal expression, percentage and scale) and to justify relationships and operations between positive rational numbers.

3. The student accurately uses mathematical language.

4. The student describes and assesses the successive states of knowledge and learning difficulties of primary school pupils during the acquisition process of the contents related to rational number.

5. The student analyses and designs didactical situations or resources for the learning and teaching of the positive rational number in Primary Education.

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The learning process designed for this subject is based in the following facts: the professional future of teaching must develop a didactical action focused in problem solving and children interactions with his or her material and social environments. Hence, the teaching offered in this subject in the same principles. Lectures will not have, in general terms, the traditional function of sequenced presentation of contents but will serve to lodge the contents, both mathematical and didactic, that have previously appeared in the practical sessions, around the tasks of solving problems, case studies, etc.

4.2.Learning tasks

The program offered to the student to help him achieve the expected results includes the following activities:

Practical sessions (divided group). The fundamental objective will be the resolution of problematic situations, questions, actual cases... manipulating different didactic materials, in order to answer the questions that arise during the practical sessions. The nature of these experiences will be both mathematical and didactic. To adequately answer the questions, it will be necessary to build new concepts, as well as to review and to elaborate on those that are already known.

Theory sessions. It will reflect upon the importance of the mathematical and didactic contents addressed for the teaching work of the teacher and the learning work of the student. The concepts that have appeared in the practical sessions and the main issues that appeared during the course will be shown, discussed and corrected in light of the solutions provided by the students in the practical classes.

Practical sessions (large group). Throughout each topic, articles, problem sheets and case studies will be delivered on the subject to be dealt with. Some of them will be solved in class, while others will be left as homework to the students and will therefore have their weight in the final grade.

Small group assignment. The students will develop a work in groups of 3-4 students. In this work an educational proposal will be analyzed and evaluated. Some tutorials will be arranged with each group to detail the work that must be done in a compulsory manner, monitor their progress and evaluate the participation of each member of the group in the realization of the work.

Activities	Session hours	Autonomous work	Total
Practical sessions (divided groups)	24	12	36
Theory sessions	24	24	48
Practical sessions (large group).	8	24	32
Small group assignment	2	20	22
Exam	3	9	12
Total	61	89	150

4.3.Syllabus

The course will address the following topics:

- Didactics of linear magnitudes and its measurement.
- Didactics of rational number arithmetic: models, representations and operations.
- Didactics of rational number arithmetic in the Primary Education curriculum.
- Situations and didactical resources for the teaching of rational number arithmetic in Primary Education.

These topics are organized in thematic units. Each of them will address jointly both mathematical and didactical aspects.

4.4.Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the " https://moodle2.unizar.es/add/"

4.5.Bibliography and recommended resources