

Academic Year/course: 2021/22

26620 - Didactics: Arithmetic I

Syllabus Information

Academic Year: 2021/22

Subject: 26620 - Didactics: Arithmetic I

Faculty / School: 107 - Facultad de Educación

202 - Facultad de Ciencias Humanas y de la Educación

301 - Facultad de Ciencias Sociales y Humanas

Degree: 298 - Degree in Primary School Education

299 - Degree in Primary School Education

300 - Degree in Primary School Education

ECTS: 6.0

Year: 2

Semester: Second semester

Subject Type: Compulsory

Module:

1. General information

2. Learning goals

2.2. Learning goals

1. The student rebuilds his knowledge referring to natural numbers in Primary Education by adapting them to the professional needs of teachers.
2. The student accurately uses mathematical language.
3. The student solves mathematical problems involving mostly the arithmetic contents related to natural numbers.
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 natural numbers.
5. The student analyses and designs didactical situations or resources for the learning and teaching of the natural number in Primary Education.

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process designed for this subject is based on the following:

The future teaching professional must develop a didactic action focused on problem solving and on the interaction of the child with its material and social environment. Therefore, the teaching offered in this subject is based on the same principles. In general, the master class will not have the traditional function of sequential presentation of contents, but will serve to anchor the contents, both mathematical and didactic, which have previously appeared in the practical classes, around the tasks of problem solving, case studies, etc.

This course presents different methodological strategies to develop the assigned competences. The methodology followed in this course includes:

- Lectures
- Active learning methodologies
- Group or individual assignments
- Oral presentation and discussion of projects
- Tutorials

4.2. Learning tasks

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

Theory sessions. In these sessions, the teacher will explain theoretical contents with a more interactive and participative character than the master class.

Practice sessions (split group). In the practical sessions, students will solve problematic situations, questions, cases... manipulating different didactic materials, in order to answer the questions that are raised in the script of practices. These activities will be both mathematical and didactic in nature. To answer the questions, it will be necessary to construct new concepts, and deeply review those already known.

Problem sessions. In some theoretical sessions, students will be proposed to solve problems of mathematical and/or didactic content. Some of them will be solved in class, while others will be handed in and will therefore have their weight in the continuous evaluation grade.

Group work. A part of the assessment of the subject will be a team assignment. Teams will be formed by five students, approximately. Previously arranged seminars with each team will be held to detail the work to be done, to supervise its progress and to evaluate the participation of each one of the team members.

The student's allotted time to these activities is as follows:

Activities	Presence-based hours	Autonomous work	Total
Practice sessions	20	10	30
Theory sessions	22	30	52
Problem sessions	14	25	39
Group work	2	18	20
Exams	3	6	9
Total	61	89	150

4.3. Syllabus

Programme of the subject

Brief introduction to the mathematical activity and its didactics. The arithmetic of the natural number in the primary education curriculum. Didactics of counting and the natural number as cardinal and ordinal. Didactics of number systems. Didactics of operations with natural numbers. Situations and didactic resources in the teaching of natural number arithmetic in primary education.

These contents are divided into thematic units. In each of them, both mathematical and didactic aspects associated with the phenomena of teaching and learning the natural number will be worked jointly.

4.4. Course planning and calendar

Calendar of presence-based sessions and presentation of works

The calendar of presence-based sessions, presentation of assignments and key dates is communicated through the Moodle platform (ADD) at the beginning of the semester.

Control and assessment sessions of the group assignment may be scheduled outside the class timetable or shift depending on the teacher's availability. The specific schedules will be fixed in the first weeks of the course.

The dates of the final exams can be checked on the web page of the corresponding Faculty.

4.5. Bibliography and recommended resources

It can be found on the library's web page: <http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26620>