

Academic Year/course: 2022/23

26620 - Didactics: Arithmetic I

Syllabus Information

Academic Year: 2022/23

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. In some sessions, students will be asked to solve problems with a mathematical and/or didactic content, or other tasks such as the analysis of teaching proposals or case studies, etc.

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.

Individual works. They will be solved in sessions outside class hours.

Special practice. A part of the evaluation of the course will be a special practice. Teams will be formed by five students, approximately. This practice will consist of a work in teams. Tutorials will be held with each team, on the dates indicated in section 4.4, in order to detail the work to be carried out, supervise its progress and evaluate the participation of each and every one of the team members in the work.

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.

At the Faculty of Education of Saragossa, the first and second session of the special practice will be held on the same days of the week on which there is a theory or practical class during the seventh and tenth week of classes, respectively, in the timetable indicated for "Seminars, directed work and class recovery".

At the Faculty of Humanities and Education of Huesca, the monitoring of the special practice will take place in the weekly session assigned for this purpose.

At the Faculty of Social and Human Sciences of Teruel, the special practice will take place during the hours dedicated to practical classes and will be distributed in 3 sessions as follows: the first of them will be in the fifth week of classes, the revision session will be in the tenth week and, finally, the evaluation session will take place in the twelfth week of classes.

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>