

26620 - Didactics: Arithmetic I

Syllabus Information

Academic year: 2024/25

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

The goal of the subject is the mathematical and didactic formation of the future teacher of Primary Education in that refers to the natural number.

To successfully take this subject it is not necessary to have more mathematical knowledge than that taught in compulsory secondary education. However, it is essential to be in a good disposition to rework the mathematical contents of primary education from the perspective of the teacher who teaches them, and to bring the subject up to date through continuous work.

2. Learning results

1. Ability to reconstruct the arithmetic contents related to the natural number of Primary Education, adapting them to the professional needs of the teacher of this educational stage.
2. Ability to solve mathematical problems in which arithmetic contents linked to the natural number are a priority.
3. Ability to describe and evaluate the successive states of knowledge and learning difficulties of primary school students during the process of acquiring arithmetic content related to natural number.
4. Ability to analyze and design situations or didactic resources for the teaching and learning of the natural number in Primary Education. In addition to the ability to use precise mathematical language.

3. Syllabus

1) The natural number in Primary Education: didactic orientations and legislative framework. 2) The natural number and numbering systems. 3) Addition and subtraction of natural numbers. 4) Multiplication, division and powers of natural numbers. 5) Attention to diversity in a mathematics classroom for the teaching and learning of the natural number in Primary Education.

In these contents, both mathematical and didactic aspects associated with the phenomena of teaching and learning natural numbers will be worked on together.

4. Academic activities

Practical classes (split group). The objective will be the resolution of problematic situations, questions and/or cases; manipulating different didactic materials, with the aim of answering the questions posed in the practical script. These experiences will be of a mathematical and didactic nature. In order to respond adequately to these questions, it will be necessary to reconstruct the arithmetical concepts, revising and deepening those already known.

Theoretical classes. Reflection will be made on the importance of the mathematical and didactic contents dealt with for the teaching work of the teacher and in the student's discourse, the concepts that have appeared in the practical classes will be presented and the main questions that appeared during the class will be discussed and corrected in the light of the solutions provided by the students in the practical classes. In some sessions, students will be asked to solve problems of mathematical and/or didactic content, or other tasks such as the analysis of teaching proposals or case studies, etc.

Individual work. Throughout each subject, students will be given articles on the subject to be dealt with and/or different problem sheets and/or case studies. They will be solved by the students, in or out of class time.

Special practice in teams. Part of the assessment of the course will consist of carrying out a directed project in teams of approximately 5-6 students. Tutorials will be held with each team, on the dates indicated by the teachers, to detail the work, supervise its progress and evaluate the participation of all the team members in the work.

The special team practice will follow the following timetable:

- In the Faculty of Education of Zaragoza, the first and second sessions will be held on the same days of the week that there is a theory or practical class, during the seventh and tenth week of classes, respectively, during the timetable

indicated for 'Seminars, directed work and class recovery'. Due to unforeseen calendar situations, the following week could be used in both cases.

- In the Faculty of Humanities and Education in Huesca, the follow-up will take place in the weekly session assigned for this purpose.
- In the Faculty of Social and Human Sciences of Teruel, it will take place in the timetable of the subject dedicated to practical classes and will be distributed in 3 sessions: the first session will be the fifth week of classes, the revision session will be the tenth week and the evaluation session will be the twelfth week of classes.

5. Assessment system

Faculty of Education of Zaragoza and Faculty of Social and Human Sciences of Teruel

CONTINUOUS ASSESSMENT

Activity A. Participation in practical sessions in teams (3 points). Through the delivery of team scripts in each practical session and direct observation. Criteria: 1. Correct resolution and argumentation of the tasks in the practical scripts. 2. Active participation and positive attitude and respect towards the teaching staff and other colleagues. 3. Proper functioning of each of the members of the team. 4. In addition, at the discretion of the teaching staff of each Centre, completion of an individual questionnaire which will account for up to 50% of the mark for the practical.

Activity B. Special practice in teams (2 points). Each team will deliver a written dossier, and its subsequent individual oral defence. The instructions will be provided by the teacher during the first week of class. Criteria: 1. Completeness of the work. 2. Correctness and appropriateness of the answers, using a clear expository discourse. 3. Mastery of the contents by all members of the team, having made contributions of equivalent value. 4. Adequate final presentation: clarity of expository discourse, correct use of language and subject-specific vocabulary. 5. Correct use of quotations, references and sources consulted for the completion of the work. 6. Proper functioning of each member of the team in monitoring and defence sessions. Plagiarism will be penalised, assigning a minimum score of 0 points.

Activity C. Individual examination(s) (5 points). Criteria: 1. Clarity, correctness and adequate reasoning in the resolution of the questions. The assessment of each question will also take into account the validity of the procedure and the argumentation carried out. 2. Use of the contents worked on (concepts, procedures, techniques...) during the course of the subject. 3. Use of appropriate technical vocabulary and the correct use of the language in which the subject is taught.

Grading criteria and requirements for passing the continuous assessment:

In order to pass the subject in continuous assessment mode, all of the following requirements must be met:

- Attendance to at least 75% of the practical classes.
- Attendance to at least 50% of the special team practice sessions.
- Obtain Grade A + Grade B greater than or equal to 2.5 points.
- Obtain grade C greater than or equal to 2.5 points.

The grade for the continuous assessment modality will be obtained from the sum of grades A+B+C. In order to pass the subject in this evaluation modality it will be necessary that this grade is greater or equal to 5.0.

EVALUATION BY GLOBAL TEST

Students who have not taken or passed the subject in the continuous assessment mode or who wish to increase their marks may take a global assessment test with the same content as activity C. Their final grade will be in the range 0 to 10 points and students will pass the test and the subject when they obtain a score greater than or equal to 5.0.

SECOND CALL: Students who have not passed the subject in the first call may sit the overall exam on the dates set by the Centres for the second call of the course.

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Activity 1. Practical sessions in teams. All sessions will have the same evaluation, with a maximum grade of 3 points.

Activity 2. Special practice in teams. The maximum grade is 2 points.

Activity 3. Final individual exam on the mathematical and didactic contents of the subject. This will be graded out of 5 (grade A) and out of 10 (grade B). If the grade A is higher or equal to 2.5 (equivalent to 5 out of 10) the grades of activities 1 and 2 will be added and the total will be compared with the grade B. The final grade will be the higher of the two grades. If the grade A is lower than 2.5, the final grade will be the grade B. A final grade of 5 or higher is required to pass.

All enrolled students, whether or not they have taken the continuous assessment activities, have the right to take the final exam that assesses the learning outcomes defined in this teaching guide in accordance with article 158 of the Statutes of the University of Zaragoza.

SECOND CALL: Students who have not passed the course in the first call may sit the final individual exam to be held in the second call, which will be subject to the same evaluation criteria of activity 3. The grades obtained in activities 1 and 2, if any, will be maintained for the second sitting of the course.

All centres

FIFTH AND SIXTH ASSESSMENT: This assessment is carried out in front of an examining board, and this right cannot be waived. However, students may choose to carry out the assessment activities together with the rest of the group and, subsequently, they will be handed in to the examining board. In both cases, the same assessment criteria and requirements specified as ordinary and general for the subject will be applied.

Finally, it should be borne in mind that the University of Zaragoza's Coexistence Regulations will apply to irregularities committed in assessment tests by means of academic fraud, as well as the application of article 30 of the Learning Assessment Regulations in relation to irregular practices other than academic fraud.

6. Sustainable Development Goals

- 4 - Quality Education
- 5 - Gender Equality
- 10 - Reduction of Inequalities