

TEACHING GUIDE

TEACHING OF NATURAL ENVIRONMENT STUDIES

GRADO EN EDUCACIÓN INFANTIL (INGLÉS)

ACADEMIC YEAR 2026-27

Publication date: 27-06-2026



I.-Subject Identification

Type	OBLIGATORIA
Teaching period	3 course, 2Q semester
Nº of credits	6
Language in wich the subject is taught	English

II.-Presentation

In this subject, the student will take the necessary physic-natural knowledge, as well as the needed didactic tools for its properly transmission to their future pupils in Pre-Primary educative stage.

Previous academic conditions are not required for taking the subject **Teaching of Natural Environment Studies**, except those experimental science competences and knowledge belonging to compulsory education that the student has already got.

Teaching of Natural Environment Studies is the first and only contact for Degree in Pre-school Education students with the world of Natural Sciences, being understood in the word's traditional sense as comprising the scientific specialties of Physics, Chemistry, Biology and Geology. It must not be forgotten, nevertheless, the arising of new subject matters, such as Biochemistry or Environmental Sciences, overlapping the classical ones, that can become independent disciplines in a few years.

In the Degree design, no other subject in the frame of natural or experimental science runs ahead **Teaching of Natural Environment Studies**, thus it is intended for scientific contents themselves rather than teaching didactic strategies. The only preceding subject with some overlapping risk is *Health Education, Hygiene and Food*, concerning knowledge of human body. References to Pre-Primary Education official curriculum, through the subject called "Conocimiento del Entorno" (Awareness of Environment), and carrying out of inherent-to-experimental sciences practical activities must be continuous.

Subject aim

Teaching of Natural Environment Studies aim is giving future school teachers some didactic and scientific basics they will need for the professional teaching practice within the framework of Pre-Primary Education, in the field we could name Environment knowledge.

For this subject, it is expected the students will be given proper expertise in the field of Experimental sciences, either theoretical or practical, that will contribute to prepare them as Pre- Pre-Primary Education school teachers, finding out, at the same time, its importance for understanding not only physical events, but teaching job itself. Summarizing, **Teaching of Natural Environment Studies** promotes developing both a critical, thoughtful and active attitude for understanding Nature, natural phenomena and its didactics in Pre-Primary Education.

Guidelines

- Nature and features of scientific knowledge.
- Experimental sciences curriculum in Pre-Primary Education.
- Study of physic-natural subjects for scientific teaching in Pre-Primary Education.
- Planning Knowledge of the Natural Environment teaching.
- Scientific experiences and activities appropriate to pre-primary stage.

III.-Learning outcomes



CGI1. Ability to analyse and synthesise.

CGI2. Organisation and planning skills

CGI6. Information management skills

CGP1. Teamwork

CGP3. Interpersonal Relations Skills

CGP5. Critical reasoning.

CGS5. Sensitivity to environmental issues

CGS7. Creativity.

CE2 Knowledge of the course contents to be taught, understanding their epistemological singularity and the specificity of their didactics.

CEGEI2 Effectively approach to an early childhood learning situations from a globalising and integrating perspective of the different cognitive, emotional, social, motor, linguistic and self-regulation dimensions. (globalising perspective)

CEGEI3 Create learning environments that favour empathy, social behaviour, autonomy and multicultural coexistence by systematically observing the social, family and school environment. (Contextual and social-natural perspective).

CEGEI7 Design didactic actions related to understand the space and time in schoolchildren. (space-time perspective)

CEGEI9 Apply and use appropriately the new Technologies as a vehicle of information, communication and introduction in the world of mass media.

CEGEI11 Designing experiences to get to know the natural world through sensory perception. (Sensorial and experiential development)

CEGEI14 Encourage the daily coexistence in the classroom and outside it, solve discipline problems and contribute to the peaceful resolution of conflicts. Stimulate and value the effort, perseverance and personal discipline in students.

CEGEI16 Understand the basic principles of language and communication sciences.

CEGEI31 Integrate historical and geographical study from an instructional and cultural orientation.

- Key for degrees not adapted to RD 822/21: **CB** - basic competences, **CG** - generic competences, **CE** - specific competences, **CT** - transversal competences.
- Key for degrees adapted to RD 822/21: **CON** - knowledge, **COM** - competences, **HAB** - skills.

IV.-Contents

IV.A.-Syllabus

The Experimental Science curriculum in Pre-primary education.

Unit 1 The child at the stage of Pre-Primary Education and science

- Introduction.
- The importance of a scientific education in the 0-6 years old stage.
- Science curriculum in Pre- Primary Education.

Nature and features of scientific knowledge.

Unit 2 Nature and features of scientific knowledge

- The scientific method.
- Building the scientific knowledge.
- Magnitudes and units: the International System of Units scientific notation, conversion of units.
- The classroom as a science laboratory.
- Practical exercises.

Study of basic physical-natural knowledge for scientific teaching in Pre-Primary Education.

Unit 3 The Solar System and the Universe

- The Sun.
- Planets of the Solar System: main features.
- Earth orbital movements: calendar and seasons.
- Poles, meridians, parallels. Measuring time: solar time and legal time. Time zones.
- The Moon: movements and influence.
- Asteroids, meteorites and comets.
- The outer space.
- Didactics of Earth and Universe.

Unit 4 Matter and its properties

- Matter: atoms and molecules, elements and compounds
- Matter states of aggregation: solid, liquid and gas.
- Matter general properties: volume, mass, weight, density.
- Specific properties: colour, smell, hardness.
- Physical changes: reversible and irreversible.
- Changes of state.
- Mixtures: types, separation methods.
- Chemical changes: oxidation, fermentation.
- Matter's teaching and experimentation in Pp. E.
- Materials: Daily life
- Matter didactics and experimentation in Pp. E.

Unit 5 Geology

- Minerals and rocks: types, formation.
- Earth's internal structure: geodinamical and geochemical models.
- Plate tectonics: continental drift, ocean bottoms.
- Eartquakes: Richter, Mercalli scales
- Volcanoes
- Didactic activities about Geology in Pp. E.

Unit 6 Living things

- Vital functions of living things
- The cell: types, structure, functions, organelles
- Classification of living things: Kingdoms
- Ecosystems: types, chains
- Didactic activities relating to living things.

Unit 7 The human body



- The human body.
- Respiration and blood circulation.
- Digestion and excretion.
- Experiences with senses for Pp. E.

Planning Knowledge of the Natural Environment teaching.

Unit 8 Environment

- Atmospheric phenomena and meteorology.
- Energy: production and consumption.
- Renewable and non-renewable energy sources.
- Recycling.
- Didactic and consciousness raising
- Teaching of Awareness of Environment planning

Scientific experiences and activities appropriate to pre-primary stage.

Unit 9 Experiences and activities for Pre-Primary Education

- Science resources in Pp. E.
- Environment as an educational resource.
- Science integration in the classroom.
- School kitchen garden as didactic resource
- Nature's corner
- Getting out of the classroom.
- The new technologies.

IV.B.-Training activities

Type	Title
Group work	Presentation of joint works assigned by the professor on science didactics, mainly regarding educational innovation.
Other activities	Voluntary field trips and visits to environmental education centres, museums, open field.
Theoretical sessions	Theoretical training in the classroom or in the campus
Resolution of exercises, problems, case studies	Classroom resolution of problems and numerical exercises; improving proposals; practical examples; assessment and discussion from informative materials.



V.-Student workload	
Theoretical sessions	40
Resolution of exercises, problems, case studies, etc.	12
Practical sessions in experimental, technological and clinical laboratories, fieldwork, etc.	4
Tests and/or exams	4
Academic tutorials	40
Related activities: conferences, seminars, etc.	8
Preparation of theoretical sessions and self-study	12
Preparation of practical tasks, exercises, case studies, projects, etc.	20
Preparation for tests and/or exams	40
Total student workload	180

VI.-Methodology and academic programme		
Type	Period	Content
Practical sessions	Week 1 to Week 7	Practical exercises complementary to theory classes, specially solving of cases and problems.
Academic tutorials	Week 1 to Week 7	Doubts and questions will be solved face-to-face or on-line, after previous arranging with the teacher.
Group work	Week 2 to Week 7	Works making and exposition.
Other activities	Week 2 to Week 7	Out-of-the-clasroom and open air activities.
Theoretical sessions	Week 1 to Week 7	Descriptive exposition of the subject, supporting on slides, power point presentations and movies.
Other activities	Week 1 to Week 7	Scientific texts reading.



VII.-Assessment methods

The general assessment method is continuous as established in the *Regulation for the Assessment of Learning Outcomes* of Rey Juan Carlos University.

All the assessment systems established in the degree report must be employed, except for those that have a minimum weight of 0%, which can be used by professors in the academic years they consider relevant. Each assessment system may be applied through one or more assessment activities, consistent with the system. No assessment activity can exceed individually 60% of the overall grade for the subject.

The sum of non re-evaluable activities cannot exceed 40% of the overall grade for the subject and, in general, should not have an established minimum grade (except for practical activities in which, strictly speaking, the conditions of the ordinary call cannot be reproduced in the extraordinary call).

Those students who do not manage to pass the subject in the ordinary call, or do not attend this first call, may attend the extraordinary call only for failed re-evaluable assessment activities.

The distribution and characteristics of the assessment activities are described below.

VII.A.-Description and weight of the assessment activities

VII.-Assessment methods

VII.A.-Assessment weighting

Continuous ordinary assessment:

The distribution and characteristics of the assessment tests are those described below. Only in exceptional case and for special reasons may the teacher add changes to the Guide. These changes will require the prior consultation with the Subject Head and the prior and explicit authorisation of the Degree Programme Coordinator, who will notify the Vice-Rector's office in charge of Academic Affairs of the modifications made. In any case, the changes proposed must take into account the stipulations of the verified report. In order for these changes to take effect, they must be duly communicated at the start of the course to the students using Aula Virtual.

The combination of activities that are not re-assessable cannot exceed 50% of the subject grade and, in general, cannot have a minimum grade (except for the case of laboratory or clinical work placements, where duly justified), and tests which exceed 60% of the subject weighting cannot be added.

Extraordinary assessment: Students who do not manage to pass the ordinary assessment, or who did not attend, will be subject to completion of an extraordinary assessment to verify their acquisition of the skills established in the guide, only for activities that are re-assessable.

Description of the tests for assessment and their weights.

1. **Written mid-term exam 1 (SE01).** (Weighting: 40%). Minimum mark: 5. Re-assessable
2. **Written mid-term exam 2 (SE01).** (Weighting: 40%). Minimum mark: 5. Re-assessable
3. **Assessable complementary activities (SE06):** individual or group works, oral presentations (Weighting: 20%). Minimum mark not required. Non re-assessable

Comments

- The assessment method for advance call students will be the same as that established in general terms.
- Every subject teacher will suggest at course beginning the possibility of including a percentage in assessment by assessable complementary activities. If these are not done because of material, timing or sanitary conditions, this percentage would be added to written mid-term exams
- If complementary activities are done, for passing the subject, both written exams must be calificated over 5
- Optionally, a teacher can propose additional mid-terms or specific adaptations, always keeping informed his students from the beginning of the course and under URJC regulations

ASSESSMENT CRITERIA

- Every answer written in English
- Clear writing (good concepts comprehension and exposition)
- Organized composition (good composition organization and correct syntax)
- Accuracy, amplitude and deeping in syllabus and concepts knowledge
- Knowledge of specific terminology: using scientific language according with the subject
- Reflection, analysis and synthesis capacity
- Mentioning authors and works related to asked questions
- Examples
- Giving ideas, personal feedback and acting proposals
- Good organization and structure of developed ideas
- Correct, ordered and complete global structure
- Clear exposition
- Correct spelling. Every spelling or punctuation fault will be punished with 0'5 points. More than three spelling faults will do the subject to be failed
- Polite appearance

Advanced assessment: The method of advanced assessment will be the same as that established in general, except the group work, that will be adapted to an individual work..

General observations

Universitary students must attend the academic activities in a responsible way and cooperate in its smooth progress and improvement; be respectful with other members of the universitary community; and look after and use in a proper way University's goods, equipments and facilities. In particular, the teacher will state the rules to be followed for the classes right progress, regardind punctuality, involvement and whatever issues to be considered. The teacher will watch over the suitable compliance of these rules. Student's stay in the classroom will make conditional to this compliance.



VII.B. Assessment of students with academic exemption from class attendance

Having Academic Exemption from Class Attendance (DAAC) does not imply that students are automatically exempt from participating in the continuous assessment activities or in the training activities of compulsory attendance as established in the teaching guide. Once the exemption has been granted, students must contact the subject's teaching staff, who will propose the adaptations he/she may consider relevant, as long as they guarantee the acquisition and adequate assessment of the learning goals established. Students must maintain adequate communication with the teaching staff so that they may provide information on the dates for training and assessment activities, if these are not established in the programme and available for students at the time of achieving the exemption.

Subject with possibility of academic exemption: Yes.

VII.C. Review of assessment activities

In accordance with the Regulation for the Assessment of Learning Outcomes of Rey Juan Carlos University.

VII.D.-Students with a disability or special educational needs

In order to guarantee equal opportunities, non-discrimination, universal accessibility and academic success, students with disabilities or especial education needs may request curricular adaptations to follow their studies. These adaptations will be provided by the Unit of Attention to People with Disabilities of Rey Juan Carlos University, in accordance with the regulation which regulates the service for the Attention of People with Disabilities at the University. This Unit will issue a report for curricular adaptations, so that students with disabilities or special education needs must contact the service (at e-mail discapacidad.programa@urjc.es) in order to provide relevant information for different educational alternatives.

VII.E.-Academic behaviour, academic integrity and honesty

Rey Juan Carlos University is fully committed to the highest standards of academic integrity and honesty, so studying at the URJC means assuming and subscribing to the values of integrity and academic honesty set out in the University's Ethical Code. To support this process, the University has Rey Juan Carlos University's Academic Conduct Regulation as well as different tools (anti-plagiarism, supervision...) that offer a collective guarantee for the full development of these essential values.



VIII.-Teaching resources and materials

Basic bibliography

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IX.-Professors	
Name and surname	MIGUEL PORTOLÉS REBOUL
E-mail address	miguel.portoles@urjc.es
Department	Ciencias de la Educación
Campus	Madrid - Vicálvaro
Category	Profesor/a Ayudante Doctor/a
Academic degree	Doctor
Person responsible for the subject	Yes
Tutorial timetable	Para consultar las tutorías póngase en contacto con el/la profesor/a a través de correo electrónico
Number of quinquennia	1
Number of sexennia	0
No. of positive evaluations by Docencia	1