Universitat de Lleida

DEGREE CURRICULUM

LEARNING OF EXPERIMENTAL SCIENCES II

Coordination: IBAÑEZ PLANA, MANUEL

Academic year 2022-23

Subject's general information

Subject name	LEARNING OF EXPERIMENTAL SCIENCES II
Code	100807
Semester	ANUAL CONTINUED EVALUATION
Typology	<table><tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr><tr><td>Double bachelor's degree: Degree in Pre-school Education and Degree in Primary Training</td><td>4</td><td>COMPULSORY</td><td>Attendance-based</td></tr></table>
Course number of credits (ECTS)	9
Type of activity, credits, and groups	Query has returned no results
Coordination	IBAÑEZ PLANA, MANUEL
Department	ENVIRONMENT AND SOIL SCIENCES
Important information on data processing	Consult this link for more information.
Language	Spanish, Catalan and English (only in the bilingual group)

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
IBAÑEZ PLANA, MANUEL	manel.ibanez@udl.cat	0	
JIMENEZ LLORENS, ANNA	annamaria.jimenez@udl.cat	0	

Learning objectives

1. Understand the main principles and the fundamental laws of experimental sciences (physics, chemistry, biology and geology).

2. Know the school curriculum of these sciences.

3. Raise and solve problems associated with sciences in everyday life.

4. Value sciences as a cultural fact.

5. Recognize the mutual influence between science, society and technological development, as well as the appropriate citizen behaviour to ensure a sustainable future.

6. Develop and evaluate curriculum contents by means of appropriate didactic resources and promote the acquisition of basic skills among students.

7. Master ICT.

8. Express oneself correctly both orally and in writing.

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Competences

The competences to be developed in the subject "Learning Experimental Sciences II" are the following:

Basic Competences

BC1. Possess and understand knowledge in an area of study -Education- that starts from the base of general secondary education, and is usually found at a level that, although it is supported by advanced textbooks, also includes some aspects that imply knowledge coming from the forefront of your field of study.

General Competences

GC1. To promote democratic values, with special emphasis on tolerance, solidarity, justice and non-violence, and to know and value human rights.

GC2. Know the intercultural reality and develop attitudes of respect, tolerance and solidarity towards different social and cultural groups.

GC3. Know the right to equal treatment and opportunities between women and men, in particular by eliminating discrimination against women, whatever their circumstance or condition, in any of the areas of life.

GC4. Know the measures that guarantee and make effective the right to equal opportunities for people with disabilities.

GC5. Develop the ability to critically analyze and reflect on the need to eliminate all forms of discrimination, direct or indirect, in particular racial discrimination, discrimination against women, that derived from sexual orientation or that caused by a disability.

GC6. Assume the commitment of personal and professional development with oneself and the community. Adapt the learning proposals to the most significant cultural evolutions.

Specific Competences

SC2. Design, plan and evaluate teaching and learning processes, both individually and in collaboration with other teachers and professionals at the center.

Transversal Competences

TC5. Apply essential notions of scientific thought

Subject contents

- · Scientific and school models of the subject's structure
- · Scientific and school models of energy
- · Scientific and school models of universe
- · Scientific and school models of the living
- · School construction of scientific knowledge, procedures and attitudes
- · Scientific understanding of everyday problems
- · Experience, thinking and language
- · Social construction of science. Teamwork. Communication
- · Relations between science, technology and society
- · Commitment and responsibility
- · Reflective practice in scientific education. Assessment
- · Children and scientific learning
- · The look of science
- · Emotional aspects of the scientific knowledge

Methodology

- Professor's oral presentations
- Classroom practice: projects, problems and development of practical experiences
- Design of didactic units. Project work
- Implementation of didactic units. Critical reflection and reworking proposals
- Oral presentations, debates and work reports
- Seminars: small group
- Tutorial: small group / individual
- Project presentation and debate: large group
- Study
- Readings

Development plan

SCHEDULE: LEARNING ACTIVITIES

LARGE GROUP SESSIONS, 63 classroom hours

Indicative planning of classroom sessions

SESSION (1h)	DESCRIPTION	AIMS	STUDENT'S TASKS	% WEIGHT IN EVALUATION
1-3	Introduction and presentation of the subject	Main guidelines on the subject		
4-18	Model Matter and Energy I	In-depth study of the model's construction In-depth study of its didactic application	Diary, exercises and other activities Planning	15
19-33	Model Matter and Energy II	In-depth study of the model's construction In-depth study of its didactic application	Diary, exercises and other activities Planning	15
34-48	Model the living: Staying alive	In-depth study of the model's construction In-depth study of its didactic application	Diary, exercises and other activities Planning	15
49-63	Model the living: Change and Evolution	In-depth study of the model's construction In-depth study of its didactic application	Diary, exercises and other activities Planning	15

MEDIUM GROUP SESSIONS: 27 classroom hours

Indicative planning of classroom sessions. Workshop seminars, problem resolution

SESSION (1h)	DESCRIPTION	AIMS	STUDENT'S TASKS	% WEIGHT IN EVALUATION
1-6	Model Matter and Energy I	In-depth study of the model's construction In-depth study of its didactic application	Diary, exercises and other activities Planning	10
7-13	Model Matter and Energy II	In-depth study of the model's construction In-depth study of its didactic application	Diary, exercises and other activities Planning	10
14-21	Model the living: Staying alive	In-depth study of the model's construction In-depth study of its didactic application	Diary, exercises and other activities Planning	10
22-27	Model the living: Change and Evolution	In-depth study of the model's construction In-depth study of its didactic application	Diary, exercises and other activities Planning	10

Evaluation

GRUP BILINGÜE

1) The body human project: 30 % (Workgroup)
2) Science Corner – Inquiry activity: 25 % (Workgroup)
3) Final exam: 45 % (Individual)

GRUP DUAL MATÍ

1) eSTEM out of classroom 20%

2) Wix 'La Mitjana' 20%

3) Productions 25%

4) Final exam 35%

Bibliography

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