

**Educational Values of Science Inside and Outside
the Classroom**

Code: 102086
ECTS Credits: 6

Degree	Type	Year	Semester
2500798 Primary Education	OT	4	2

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Marta Fonolleda Riberaigua

Prerequisites

It is recommended to have passed the compulsory subjects about science education before doing this subject.

Objectives and Contextualisation

1. To identify scientific activity as a significant part of contemporary culture.
2. To understand values and ideas of the scientific activity in contemporary context.
3. To plan and design quality school outlets in institutions which can support schools for science education
4. To analyse the presence of scientific activity in the media
5. To establish connections between the primary education curriculum and the science education activities we can find in our social context.

Competences

- Design and regulate learning spaces in contexts of diversity that take into account gender equality, equity and respect for human rights and observe the values of public education.
- Design, plan and evaluate education and learning processes, both individually and in collaboration with other teachers and professionals at the centre.
- Develop the functions of tutoring and guidance of pupils and their families, attending to the pupils' own needs. Understand that a teacher's functions must be perfected and adapted in a lifelong manner to scientific, pedagogical and social changes.
- Foster reading and critical analysis of the texts in different scientific fields and cultural contents in the school curriculum.
- Know and apply information and communication technologies to classrooms.
- Know the curricular areas of Primary Education, the interdisciplinary relation between them, the evaluation criteria and the body of didactic knowledge regarding the respective procedures of education and learning.

- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Reflect on classroom experiences in order to innovate and improve teaching work. Acquire skills and habits for autonomous and cooperative learning and promote it among pupils.
- Work in teams and with teams (in the same field or interdisciplinary).

Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Identify situations in which a change or improvement is needed.
3. Identifying aspects common to all the experimental sciences and examining them in depth.
4. Knowing how to communicate and present an argument in science lessons.
5. Planning for scientific learning situations in contexts outside of the school.
6. Promoting the use of explanatory models.
7. Propose new methods or well-founded alternative solutions.
8. Propose new ways for measuring success or failure on implementing innovative proposals or ideas.
9. Relating science with its technological applications, with its social impact on the didactic situations pertaining to the school.
10. Weigh up the risks and opportunities of both one's own and other people's proposals for improvement.

Content

The contents of the course are:

- scientific education to train citizens in contemporary society: how we approach at our social context? Which are the values of science in the present context? Anyone can do scientific activities? Where is science in my life?
- science in and out the classroom: shall we go out of school? How to establish links between the curriculum and museums activities? How can we program it?
- museums and science centers as learning spaces: Which are the characteristics of museums and science centers? Do they work with the same didactical models that we work in the school? do we know how to evaluate the quality of their activities?
- professionals of Science Centers: Which professional competences we need to work in Science Centers? What we can establish connections between science centers and school?

Methodology

The methodology of the course combines oral presentations and reflections using written and audiovisual documentation. Visits to museums and Science Centers are included.

Our teaching approach and assessment procedures may be altered if public health authorities impose new restrictions on public gatherings for COVID-19

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures	12	0.48	3, 9

Reading forums	15	0.6	5
Sharing and discussion	8	0.32	5
Visits to institutions that offer scientific education activities	10	0.4	5, 6, 9, 4
Type: Supervised			
Tutoring	28	1.12	3, 5, 6, 9, 4
Type: Autonomous			
Independent learning	75	3	3, 9

Assessment

The evaluation consist of 2 individual activities and 1 group activity.

- Individual evaluation consists of a written exam and a written reflection around the forums and the bibliography of the course. To qualify for recovery, you must have at least 3.5.
- The group evaluation consists in designing a teaching proposal which include a visite to a museum or Science Center.

Attendance is compulsory. Students must attend more than 80% of the lessons to be evaluated.

The written reflection must be submitted at the end of theoretical lessons. Other evaluation activities must be submitted the last day of the course.

Final grades will be notified via virtual campus, 15 days after. Then, a review will be considered.

Total or parcial copy of the examen or the written works will be a reason to fail the course.

The three activities must be approved with a minimum of 5 (five).

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Individual reflection work	30	0	0	3, 5, 6, 9, 4
Proposal of teaching unit about science education outside the classroom	40	0	0	1, 3, 2, 5, 10, 6, 7, 8, 9
Written exam	30	2	0.08	3, 5, 6, 9, 4

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Software

Not required