DEGREE CURRICULUM

INQUIRY AND THE CURRENT STATE OF SCIENCE

Coordination: IBAÑEZ PLANA, MANUEL

Academic year 2023-24

INQUIRY AND THE CURRENT STATE OF SCIENCE 2023-24

Subject's general information

<table>
<tr><td>Subject name</td><td>INQUIRY AND THE CURRENT STATE OF SCIENCE</td></tr>
<tr><td>Code</td><td>100992</td></tr>
<tr><td>Semester</td><td>1st Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Character</th><th>Modality</th></tr>
<tr><td>Bachelor's Degree in Primary Training</td><td>4</td><td>OPTIONAL</td><td>Attendance-based</td></tr>
<tr><td>Double bachelor's degree: Degree in Pre-school Education and Degree in Primary Training</td><td>5</td><td>OPTIONAL</td><td>Attendance-based</td></tr>
<tr><td>Double bachelor's degree: Degree in Primary Training and Degree in Physical Activity and Sports Sciences</td><td>5</td><td>OPTIONAL</td><td>Attendance-based</td></tr>
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<tr><td>Course number of credits (ECTS)</td><td>6</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
<table>
<tr><th>Activity type</th><td>PRAULA</td><td>TEORIA</td></tr>
<tr><th>Number of credits</th><td>1.8</td><td>4.2</td></tr>
<tr><th>Number of groups</th><td>1</td><td>1</td></tr>
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<tr><td>Coordination</td><td>IBAÑEZ PLANA, MANUEL</td></tr>
<tr><td>Department</td><td>EDUCATION SCIENCES</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
<tr><td>Language</td><td>Catalan: 80%
Spanish: 10%
English: 10%</td></tr>
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INQUIRY AND THE CURRENT STATE OF SCIENCE 2023-24

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
EZQUERRA GARCIA, CARLES ALBERT	carles.ezquerra@udl.cat	2	
IBAÑEZ PLANA, MANUEL	manel.ibanez@udl.cat	4	

Subject's extra information

Sustainable Development Goals (SDGs) through STEM issues

Sources of observation and inquiry into scientific knowledge Scientific communication

STEM reasoning modes Current issues in science.

Impacts on the rural world of STEM perspectives

Elements to encourage creativity through IBL, PBL STEM projects, creativity,

Science weeks, science museums and their role

Learning objectives

1. Critically analyze individual and collective responsibility in achieving a sustainable future.

2. Design proposals that promote STEM methodologies with primary education students from different didactic models according to the individual and / or collective needs of said students.

3. Design STEM proposals aimed at solving problems in today's society and promoting a sustainable future.

4. Formulate proposals for the evaluation of learning activities focused on the learning of science, mathematics and the use of digital technologies as an educational resource and / or as a learning object.

Competences

- **BASIC SKILLS**

  CB02: Apply their knowledge to their work or vocation in a professional way and possess the competencies that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.

  CB03: Gather and interpret relevant data (usually within their study area) to make judgments that include a reflection on relevant issues of a social, scientific or ethical nature.

  CB04: transmitting information, ideas, problems and solutions to both specialized and non-specialized audiences)

  GENERAL COMPETENCES

  CG01. To promote democratic values, with special emphasis on tolerance, solidarity, justice and non-violence, and to know and value human rights.

CG02. Know the intercultural reality and develop attitudes of respect, tolerance and solidarity towards different social and cultural groups.

CG03. 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.

CG04. Know the measures that guarantee and make effective the right to equal opportunities for people with disabilities.

CG05. 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.

CG06. 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

CE01: Know the curricular areas of Primary Education, the interdisciplinary relationship between them, the evaluation criteria and the body of didactic knowledge around the respective teaching and learning procedures.

CE02: Design, plan and evaluate teaching and learning processes, both individually and in collaboration with other teachers and professionals at the center.

CE04: Encourage reading and critical comment on texts from the various scientific and cultural domains contained in the school curriculum.

CE09: Assume that the exercise of the teaching function has to be perfected and adapted to scientific, pedagogical and social changes throughout life.

CE14: Reflect on classroom practices to innovate and improve teaching work.

CE15: Acquire habits and skills for autonomous and cooperative learning and promote it among students.

CE16: Selectively discern audiovisual information that contributes to learning, civic training and cultural wealth.

CE.17. Understand the role, possibilities and limits of education in today's society and the fundamental competencies that affect primary schools and their professionals.

TRANSVERAL COMPETENCES

CT03: Acquire training in the use of new technologies and information and communication technologies.

CT04: Acquire basic knowledge of entrepreneurship and professional environments.

CT05: Acquire essential notions of scientific thought.

Subject contents

1. Water and sanitation (SDG6)
2. Affordable and clean energy (SDG7)
3. Sustainable cities and communities (SDG11)
4. Responsible consumption and production (SDG12)
5. Life of terrestrial ecosystems (SDG15)

Methodology

- Case-based learning Individual works
- Tutorships
- Field work
- Project / problem-based learning
- Readings / bibliographic consultation
- Personal study
- Exhibitions and / or work debates / didactic proposals
- Monitoring of individual / group work
- Written tests / performance of work

Development plan

SESSIONS. Seminars, workshops, problem solving

DESCRIPTION	WEEK	OBJETIVES	STUDENTS TASKS
Life of terrestrial ecosystems (SDG15)	1-3	Deepening STEM didactics	Didactic proposals
Affordable and clean energy (SDG7)	4-6	Deepening STEM didactics	Didactic proposals
Water and sanitation (SDG6)	7-9	Deepening STEM didactics	Didactic proposals
Sustainable cities and communities (SDG11)	10-12	Deepening STEM didactics	Didactic proposals
Responsible consumption and production (SDG12)	12-15	Deepening STEM didactics	Didactic proposals

Evaluation

- Class diary
- Programming
- Written exercises
- Text summary
- Solving scientific problems in everyday life
- Learning activities

DESCRIPTION	EVALUATION %
Portfolio	15
Water and sanitation (SDG 6)	15
Affordable and clean energy (SDG7)	15
Responsible consumption and production (SDG12)	15
Life of terrestrial ecosystems (SDG15)	20
Written exam	20

For students who do not participate and do not present the evidence corresponding to ODS 15. Life of terrestrial ecosystems - the final grade will be distributed according to the table:

DESCRIPCIÓ	AVALUACIÓ %
Portfolio	20
Water and sanitation (SDG 6)	15
Affordable and clean energy (SDG7)	15

Responsible consumption and production (SDG12)	15
Written exam	35

In order to pass the course, students must have an average mark of 5 or more in the three blocks.

In accordance with the University of Lleida's Teaching Assessment and Qualification regulations, the blocks with a value higher than 30% have the right to a make-up exam. Students will have 15 days from the date of publication of the marks to retake the course.

Alternative assessment

Students who wish to take the alternative assessment must present a work contract or justify, in writing to the Dean, the reasons that make it impossible for them to take the continuous assessment within five (5) days of the beginning of the four-month period. For further information, please send an e-mail to fepts.secretariacentre@udl.cat or contact the Academic Secretary of the Faculty of Education, Psychology and Social Work. The assessment will consist of a single written test covering the content of the course available on the Virtual Campus (Resources).

Students with NESES

For students with specific support needs for higher education (NESES), the relevant adaptations of the blocks will be made in accordance with the indications provided by the UdLxTothom programme.

Academic failure

In the case of academic fraud or spontaneous copying, the provisions of the Regulations on the assessment and grading of teaching in the UdL's bachelor's and master's degrees and master's degrees will be applied.

Bibliography

López Simó, V., Couso Lagarón, D., & Simarro Rodríguez, C. (2020). Educación STEM en y para el mundo digital: El papel de las herramientas digitales en el desempeño de prácticas científicas, ingenieriles y matemáticas . *Revista de Educación a Distancia (RED)*, *20*(62). https://doi.org/10.6018/red.410011

Martí, J. 2012. *Aprendre ciències a l'educació primària*. Barcelona: Graó

Websites of interest

CDEC (Centre de Documentació iExperimentació en Ciències), http://srvcnpbs.xtec.cat/cdec/

Aplicatiu de Recobriment Curricular (materials didàctics del CDEC) http://apliense.xtec.cat/arc/cercador

Guies Habitat per a l'educació ambiental http://80.33.141.76/habitat/

Teachingchannel www.teachingchannel.org

Annenberg Learner www.learner.org

National Science Teacher Association www.nsta.org

Natonal STEM Center www.nationalstemcentre.org.uk

Siemens STEM Day https://www.siemensstemday.com/educators/activities?g=5