

**COURSE DATA****Data Subject**

Code	35002
Name	ICT as a Teaching Resources in Sciences and Mathematics
Cycle	Grade
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1305 - Degree in Primary School Education	Faculty of Teacher Training	4	First term

Subject-matter

Degree	Subject-matter	Character
1305 - Degree in Primary School Education	18 - Specialist in science and mathematics	Optional

Coordination

Name	Department
CAMPOS GONZALEZ, MARIA CARMEN	85 - Mathematics Education
HURTADO SOLER, DESAMPARADOS	90 - Methodology of experimental and social sciences

SUMMARY**English version is not available**

La asignatura “TIC como recurso didáctico en ciencias y matemáticas” aborda el análisis de los contenidos en ciencias y matemáticas de la etapa de Educación Primaria, mediante el diseño y evaluación de propuestas y actividades didácticas utilizando programas y entornos virtuales que favorezcan la enseñanza y el aprendizaje de las disciplinas.

El carácter predominantemente práctico de la asignatura facilita la adquisición de destrezas y habilidades digitales que permiten al alumno interactuar con fluidez con las principales herramientas de diseño de materiales educativos. La alfabetización digital minimiza la llamada brecha digital existente en las aulas de Infantil y Primaria que distancia a docentes y alumnos a la hora de trabajar con las nuevas tecnologías.



Esta asignatura enlaza con las asignaturas de “Propuestas *Didácticas en Ciencias y Matemáticas*”, “Propuestas *Didácticas en Matemáticas*”, “Propuestas *Didácticas en Ciencias*” y el *Prácticum* permitiendo a los futuros maestros y maestras aplicar los conocimientos y experiencias adquiridos en ellas.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

Se recomienda conocimiento en el manejo básico de exploradores de internet, programas office y calculadoras.

OUTCOMES

1305 - Degree in Primary School Education

- Express oneself orally and in writing correctly and appropriately in the official languages of the autonomous region.
- Use information and communication technologies effectively as usual working tools.
- Analyse critically the most relevant issues in today's society that affect family and school education: social and educational impact of audiovisual languages and of screens; changes in gender and inter-gender relations; multicultural and intercultural issues; discrimination and social inclusion, and sustainable development; Also, carry out educational actions aimed at preparing active and democratic citizens, committed to equality, especially between men and women.
- Promote cooperative work and individual work and effort.
- Assume that teaching must be perfected and adapted to scientific, pedagogical and social changes throughout life.
- Know the processes of interaction and communication in the classroom.
- Recognise the identity of each educational stage and their cognitive, psychomotor, communicative, social and affective characteristics.
- Design, plan and evaluate teaching and learning classroom activities in multicultural and co-educational contexts.
- Know how to work as a team with other professionals within and outside the school to attend to each student, to plan the learning sequences and to organise work in the classroom and in the play space.
- Know and apply basic educational research methodologies and techniques and be able to design innovation projects identifying evaluation indicators.



- Understand that systematic observation is a basic tool that can be used to reflect on practice and reality, and to contribute to innovation and improvement in education.
- Identify and plan the resolution of educational situations that affect students with different abilities and different learning rates, and acquire resources to favour their integration.
- Use information and communication technologies as a teaching resource for science and mathematics in the primary school classroom.
- Develop and evaluate teaching proposals mathematics curriculum contents.
- Develop and evaluate teaching proposals for sciences curriculum contents.
- Develop and evaluate teaching proposals for the curriculum in areas other than science and mathematics in which concepts and tools specific to science and mathematics are used.

LEARNING OUTCOMES

English version is not available

WORKLOAD

ACTIVITY	Hours	% To be attended
Theoretical and practical classes	60,00	100
Study and independent work	90,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

English version is not available

EVALUATION

English version is not available

REFERENCES

Basic

- Barberà, E. (2004) La educación en la red. Actividades virtuales de enseñanza y aprendizaje, Barcelona: Paidós.



- Cabero, J. (2006) Nuevas tecnologías aplicadas a la educación, Madrid: Mc Graw Hill.
- HARLEN, W. (2007). Enseñanza y aprendizaje de las ciencias. Ediciones Morata Ministerio de Educación y Ciencia
- Cabero, J. (2006) Nuevas tecnologías aplicadas a la educación, Madrid: Mc Graw Hill.
- Cacheiro González, M. L. (2014), Educación y tecnología: estrategias didácticas para la integración de las TIC, Uned, Madrid.
- Gros B. (2011), Educación y retos de la educación virtual: construyendo el e-learning del siglo XXI, Editorial UOC, Barcelona.
- Instituto Nacional de Tecnologías Educativas y de Formación del Profesorado (INTEF) <<http://educalab.es/intef>>
- Kong, S.-C. y Abelson, H. (Eds.). (2019). Computational Thinking Education. doi:10.1007/978-981-13-6528-7

Additional

- Proyecto Gauss. Ministerio de Educación, Cultura y Deporte
<http://recursostic.educacion.es/gauss/web>
- Programa Biosfera. Ministerio de Educación, Cultura y Deporte
<http://recursostic.educacion.es/ciencias/biosfera/web/>
- Programa Newton. Ministerio de Educación, Cultura y Deporte
<http://recursostic.educacion.es/newton/web/>
- Eduteka. Tecnologías de Información y Comunicaciones para la Enseñanza Básica y Media.
<http://www.eduteka.org/>
- Material para el profesorado preparado por el LEMA Project. http://www.lemma-project.org/web.lemaproject/web/dvd_2009/spain/homepage.html
- Roig Vila, R. (2006) Objetos de aprendizaje en Internet como recursos didácticos en la enseñanza de las ciencias, Descubrir, investigar, experimentar: iniciación a las Ciencias, Madrid: Ministerio de Educación y Cultura.