Analogue and Digital Electronics

Objectius

- To learn some specific content from the Technology curriculum through English.
- To read, write and talk about Analogue and Digital Electronics in English.
- To develop cognitive skills in a CLIL context.
- To engage students positively in a CLIL environment to benefit both from the learning of the content and the learning of the language.

Descripció de la proposta

The project is designed to be developed in 4th of ESO.
It is a Technology project about electronics, analogue electronics and digital electronics in English language, using CLIL methodology.

Aspectes didàctics i metodològics

The content is structured in 3 units:

The fist one is Introductions to electronics. In this unit students learn the main facts in the short history of electronics and about some present issues like ewaste. Then they learn about system block diagrams and the differences between analogue and digital signals.

The second one is Analogue electronics. Analogue circuits use a continuous range of voltage as opposed to discrete levels as in digital circuits. Students learn the basic electronic components. And how to combine them in basic circuits to process signals.

The third unit deals with Digital electronics. Digital circuits are the most common physical representation of Boolean algebra and are the basis of all digital computers. Students learn about the basic gates, analyse logic systems and design them. Optional simulation work is at the end of this unit.

Finally revision and assessment.

Recursos emprats

This didactic sequence contains downloadable worksheets addressed to students and ready to use materials and resources for teachers (ppt presentations, flashcards, games, videos, etc.).

Competències i continguts que es treballen de forma destacada

The lesson plans of this didactic sequence have been designed taking into account the specific skills of the two subject areas involved plus some transferable competences.

Alumnat a qui s'adreça especialment

These CLIL materials are suitable for students of secondary education (ESO).

Interdisciplinarietat, transversalitat, relacions amb l'entorn...

This didactic sequence combines content from the English language curriculum and the Technology curriculum.

Documents adjunts

The materials of this didactic sequence are structured as follows:

- **Introduction** to the didactic sequence with information about the context and the development of the units.

- **Lesson plans**: detailed information of the different units contained in the sequence with the teaching objectives, learning outcomes and assessment criteria.

- **Students' worksheets**: downloadable ready to use materials in pdf files.

- **Teaching notes**: step by step instructions to implement the didactic sequence.

- **Support teaching resources**: supplementary materials to support the teaching of the didactic sequence.

All these materials are accessible at:

http://www.xtec.cat/monografics/cirel/pla_le/nile/joaquim_crisol/

Autoria

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