63231 - Design of Learning Activities for Informatics and Technology

Syllabus Information

Academic year: 2023/24
Subject: 63231 - Design of Learning Activities for Informatics and Technology
Faculty / School: 107 - Facultad de Educación
Degree: 584 - Master's Degree in Teaching Compulsory Secondary Education
594 - Master's Degree in Teaching, specializing in Technology and Computer Science
ECTS: 8.0
Year: 1
Semester: Second semester
Subject type: Optional
Module:

1. General information

The subject, which is mandatory for students in the Computer Science and Technology specialties, provides each student with the prior knowledge, skills and attitudes necessary to design learning activities of ICT and technology subjects in ESO and Bachillerato and to develop the necessary environments and resources for the work of students in these stages

In this subject, students design and develop teaching-learning activities for the subjects of the areas of Computer Science and Technology in E.S.O. and Bachillerato. For this purpose, they can take as a reference the portfolio made in the subject Curriculum and Instructional Design of Technology and Computer Science, with which they interact

2. Learning results

The student, in order to pass this subject, must demonstrate the following results:

Selects strategies appropriate to different learning.

Selects the resources needed for the activities designed or, failing that, designs and develops such resources

Value the importance of the use of ICT in the design of learning activities.

Is able to use Web 2.0 tools appropriately

Organizes the didactic spaces and resources to be used in Technology and Computer Science: classroom, classroom-workshop and computer room.

Is able to organize the work process of adolescents: sequence of tasks and timing.

Appropriately selects the teacher's role in each activity.

3. Syllabus

Contents to be taught for technology subjects

Prevention in the classroom-workshop

Project-based learning in an interdisciplinary context. Formation of practice groups and assignment of projects Project planning, drawing and construction of the project. Project execution report.

Public presentation

Development of the didactic unit of the project carried out. Examples of protocol in case of an accident.

Best practices in activity design.

Design of technology learning assessment activities.

Contents to be taught for the ICT and computer science subjects

Principles to take into account in the design of computer science learning activities. Activities to learn how to manage the information: search, filter and organize.

Activities to learn how to create and publish information:

Use of blogs and wikis as computer science learning tools. Design and creation of web pages.

Mobile application design.

Activities to learn to communicate and share.

Design of activities according to different learning strategies: WebQuest

Project-based ICT learning and Service Learning. Task-based ICT learning.

Challenge-based ICT learning. ICT learning based on case studies. Debate as a learning strategy.

Design of evaluation activities.

4. Academic activities

Theoretical sessions consisting mainly of participative lectures.

Sessions of analysis and debate of activity projects, in which the participation of the students will be promoted in a more intense way than in those dedicated to the exposition of the theoretical contents

Personal work sessions, in which the student will obtain information about different learning activities, analyse them, reflect on their appropriateness for given objectives, contents and contexts, and start the design of their own project of learning activities.

Personal or group tutoring sessions, in which students can consult specific doubts about aspects of the subject.

5. Assessment system

Continuous Assessment

Technology area:

-Individual or group activities carried out in the classroom. 10%

-Design and realization in groups of a functional prototype (classroom-workshop project). 15%

-Development of the memory of the PBA in the technology workshop. 15%

-Presentation of the project 10%

Information Technology Area:

- Individual or group activities carried out in the classroom. Submitting the report of each of these activities within one week of its completion in class is a requirement for continuous evaluation.

-Collaborative toolbox. 20%

-Design in groups of a maximum of 4 people of a Project Based Learning. 20%

-Presentation of the PBL, realization with the class group of one of the stages or activities designed and co-evaluation. 10% The grade for the subject will be obtained by adding both of them together, provided that each of them is at least 2 out of 5.

Global assessment and second call

The global evaluation consists in the fact that on the day of the test students must present and defend the same continuous evaluation deliverables according to the same criteria. Toolbox activities (20%).

Functional prototype (15%). Manufacturing report of the functional prototype presented (15%). Take an exam with theoretical-practical questions in which the student will demonstrate the knowledge and understanding of the program of the subject, as well as their ability to apply the contents and the basis of their reflections. The exam must be passed to pass the subject and will be worth 50% of the final grade. The set of papers handed in will be worth another 50%.

In the second call, the directed work must be resubmitted, pointing out and justifying the variations introduced according to the assessment of the teachers in the previous call. Students must also take an exam including theoretical practical questions.

Fifth and sixth calls

-    In each call, the work done by the student will be maintained, asking the same as for the second call, to indicate the improvements and their justification based on the assessment made by the teachers in the previous call. Students must also take an exam including theoretical practical questions.

Finally, it must be taken into account that the Regulations of the Norms of Coexistence of the University of Zaragoza will be applicable to the irregularities committed in the evaluation tests by means of academic fraud, as well as the application of article 30 of the Regulations of the Norms of Evaluation of Learning in relation to irregular practices other than academic fraud.