

WORKSHOP BY THE UNIVERSITY OF OVIEDO

Strengthening Teaching Competences in Higher Education in Natural and Mathematical Sciences

MODULE 1. FROM THE MASTER CLASS TO ACTIVE LEARNING. A NEW PARADIGM IN THE TRAINING OF UNIVERSITY TEACHERS

NEREA LÓPEZ BOUZAS (NEREALBOUZAS@GMAIL.COM)

Module 1A. Attractive approach: active participation and creative presentations

Date: Wednesday 15th December 2021, from 16:00 to 17:00h ONLINE

The inclusion of technology in the educational context offers new opportunities far removed from traditional classes. In the current context, it is essential that the starting point be dynamic, attractive and motivating, so that the active participation of the students and the support in which the information is presented become essential starting points to transmit this new look towards the way of acquiring knowledge.

Objectives. The aim of this module is to identify new strategies and technological resources to promote active participation in the classroom and create creative presentations.

Contents. · Perusall · Vevox · Mentimeter · ClassMaker · Turning · Canva · Pexels · FreePick · Mindomo · Coggle · Draw.10.

Methodology. This module will be developed through an online session on Teams. After the session, the participants will ask their questions and explain how they would introduce one of the identified resources in one of their class sessions.

Module 1B. Motivating resources: gamification, augmented reality, and robotics

Date: Wednesday 15th December 2021, from 17:30 to 19:00h ONLINE

Motivation in the classroom is essential to achieve the involvement of students. For this, it is essential to use techniques and resources that promote said motivation. For this, gamification -use of the mechanics and dynamics of the game at the service of learning-, as well as motivating resources such as augmented reality or robotics, can offer great advantages to promote extrinsic motivation in learning and, with it, the acquisition of content and key skills from enjoyment and entertainment.

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Objectives. The objective of this module is to learn to create gamified environments and activities as well as to identify augmented reality applications and robotics utilities to enrich the educational process.

Contents. · Genially · Classroomscreen · Kahoot · Socrative · Chess · ClassDojo · Aurasma · MergueCube · Geolocation · QR · Scratch.

Methodology. This module will be developed through an online session on Teams. After the session, the participants will ask their questions and explain how they would introduce one of the identified resources in one of their class sessions.

Module 1 guided individual practice: 16th December 2021, from 9 to 14h. ONLINE

Module 2. Formative tasks

Module 2A. Project-based learning tracking from a Technological perspective

Enrique A. de la Cal Marín (delacal@uniovi.es)

Date: Friday 17th December 2021, from 10:00 to 12:00. ONLINE

Project-based learning is a standard methodology in scientific and technological subjects. But, assessment of projects development and partial and global deliveries is a crucial issue in this context. Thus, this talk will analyze a case study of project-based learning on programming projects using GitHub. The case study will comprise the following steps: prepare the rubric defining the partial deliveries, the proposal of identification of the students, projects and partial deliveries, and analysis of the information obtained. Finally, the way to adapt this kind of tracking methodology will be analyzed for other projects.

Objectives. This module aims to study how to track the development of student projects in real-time and analyze the results of the obtained data.

Contents. · Project-based learning, typology of projects, kind of contents, code projects tracking,

Methodology. This module will be developed through an online session on Teams. After the session, participants will be required to design a straightforward task adapted to their subjects.

Module 2 guided individual practice: 17th December 2021, from 12 to 15h. ONLINE

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Module 3. Audiovisual and graphic content for teaching

Module 3A. Searching, designing, and editing educational images, audios, and videos

Laura Muñiz Rodríguez (munizlaura@uniovi.es)

Date: Tuesday 25th February 2022, from 9 to 15. IN PRESENCE (Novi-Sad)

Audiovisual content is becoming a powerful tool in the teaching and learning process. Audiovisual content can be used not only as an external support in face-to-face teaching but also for organizing an online or blended learning setting. This is because audiovisual content helps to keep students' attention and to understand some disciplinary contents. In this sense, teachers must be able to search and design audiovisual content that support their teaching and assist students' learning. The quality of the audiovisual content also influences the learning process. Thus, some guidelines about where to search and select (in case they already exist) or how to design and edit audiovisual content are necessary. Different software can be used for this purpose.

Objectives. This module aims at identifying which audiovisual element (image, audio, video...) is the most appropriate on each occasion, and searching, designing and editing each type of audiovisual content with the most convenient software.

Contents. · Image search. · Image and GIF design using Canva and Giphy. · Image editing with Photopea. · Audio search, recording and editing. · Video search and design with Canva. · Specific guidelines about audiovisual content.

Methodology. This module will be developed through an online session on Teams. After the session, participants will be required to design a short educational video integrating other contents (image and audio) learnt during this first module.

Module 1B. Designing graphs for data visualization

Noelia Rico (noeliarico@uniovi.es)