

Course Unit	Education and Multimedia Communication II	Field of study	Educational Sciences
Bachelor in	Environmental Education	School	School of Education
Academic Year	2021/2022	Year of study	3
Type	Semestral	Semester	1
Level	1-3	ECTS credits	6.0
Code	9082-620-3102-00-21		
Workload (hours)	162	Contact hours	T - , TP 27, PL 27, TC - , S - , E - , OT 18, O -

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Manuel Florindo Alves Meirinhos

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Using efficiencies with the different languages of communication as a way of designing multimedia messages efficient.
2. Using tools and software suited to the needs of multimedia design projects in the context of environmental education.
3. Planning adequately multimedia development projects in regional environmental issues.
4. Critically analyze the development and implementation of multimedia projects for environmental education in various stages of development.
5. To implement the projects of multimedia communication systems in the current information (network, DVD or CD) as its specific communicative, target audience and level of coverage that is sought.
6. Knowing the copyright related to electronic publications.

### Prerequisites

Before the course unit the learner is expected to be able to:  
None

### Course contents

Multimedia: concepts and characteristics. multimedia languages and their characteristics. Support design of multimedia products (image editing, audio editing, video editing), multimedia games and gamification. Design of interactive activities and learning in the digital world. Development of a multimedia project. Distribution of multimedia products. Use of e-learning platforms for multimedia broadcasting. Copyright and digital publishing.

### Course contents (extended version)

1. Multimedia: concepts and characteristics and evolution
  - The multimedia systems, hypertext and hypermedia.
  - Elements of hypertext systems / hypermedia.
  - Limitations and advantages of these systems.
  - Hipermedia local and distributed.
  - Author multimedia tools.
  - Taxonomy of multimedia applications.
  - Educational potentialities of multimedia communication
2. Linguagens multimédia e suas características.
  - The Text.
  - The Image.
  - the Video.
  - The audio.
3. Support the design of multimedia products.
  - Image-processing tools (GIMP).
  - Video editing tools (of conversion tools and editing).
  - Designing panoramic tools.
  - Animation tools.
  - Sound tools.
  - Compression tools.
  - Conversion tools.
4. Multimedia games and gamification.
  - Gamification concept.
  - Gamification strategies and creating games.
5. Design of interactive activities and learning in the digital world.
  - Creation of multimedia activities with JClíc.
  - Creation of multimedia books with JClíc.
  - QR code and Augmented Reality.
  - Internet of Things and environmental education.
  - Virtual communities and MOOC for environmental education.
  - Panoramas and virtual tours
6. Development of a multimedia project.
  - Phases of the multimedia project.
  - Identification of a problem / issue.
  - Planning and design of the storyline.
  - Objectives.
  - Methodology.
  - Design.
  - Production.
  - Test and validation.
7. Distribution of multimedia products.
  - Distribution in support CD or DVD.
  - Distribution on the Web.
  - Use of e-learning platforms for multimedia broadcasting.
8. Copyright and electronic publication.
  - National and international.
  - Patents and licenses.

### Recommended reading

1. Santos, J. , & Castriciano, A. (2012). Producción multimedia (videos y animaciones. Buenos Aires: Educar.
2. Burck, de Brian (2015). Gamificar: Como A Gamificação Motiva As Pessoas A Fazerem Coisas Extraordinárias. DVS editota, Brasil.
3. Agudaded, J. , & Cabero, J. (2013). Tecnologías y medios para la educacion en la e-sociedad. Madrid: Alianza Editorial.

**Recommended reading**

4. Ribeiro, N. (2012). Multimédia e tecnologias interactivas. Lisboa: FCA.
5. Lopes, Z. (2013). Fotografia digital. Anaya multimedia, Espanha.

**Teaching and learning methods**

Lectures: Presentation of information and knowledge by the teacher. Theoretical-practical: It is intended to establish a more immediate connection between the theoretical knowledge and its application in practice. Laboratory classes: Direct contact with equipment and software in the multimedia lab. Guidance tutoring: Open horizons direct the work to be done (individually and in groups).

**Assessment methods**

1. Continuous evaluation. - (Regular, Student Worker) (Final)
  - Projects - 50% (Planning and implementation of a group project work.)
  - Intermediate Written Test - 50% (Practical test of skills assessment.)
2. Exam evaluation. - (Regular, Student Worker) (Supplementary, Special)
  - Final Written Exam - 100% (Theoretical-practical exam. The work of the practical part can be considered.)

**Language of instruction**

Portuguese

**Electronic validation**

Manuel Florindo Alves Meirinhos	João Sérgio Pina Carvalho Sousa	Paulo Miguel Mafra Gonçalves	Carlos Manuel Costa Teixeira
29-10-2021	29-10-2021	03-11-2021	24-11-2021