IPG Polytechnic of Guarda — School of Technology and Management	**SUBJECT DESCRIPTION**		**MODELO PED.013.02**	

Course	**Marketing Graduation**		*Academic year*	**2021/2022**	
Subject	**Information Technologies**		ECTS	**5**	
Type of course	**Compulsory**				
Year	**2nd**	*Semester*	**1st sem**	*Student Workload:*	
Professor(s)			*Total*	140	*Contact*	60
Area/Group Coordinator	**PhD Clara Silveira**				

Planned

1. LEARNING OBJECTIVES

O1. Develop a set of fundamental tasks, supported by the use of a word processor and a spreadsheet.

O2. Characterize each component of the multimedia matrix (text, graphics, bitmap images, video, animation, audio).

O3. Manipulate the elements of the multimedia matrix.

2. PROGRAMME

C1. **Word Processor and Spreadsheet** (Creating a report: Styles; Automatic Indexes; page breaks and section breaks; automatic captions; headers and footers; page numbering; Creating and formatting spreadsheets: Formulas, references, Sort, Filter, Lists, Analyze, Graphs, Dynamic Tables)

C2. **Digital Representation of Information and Interactivity:** Types of static information. Types of dynamic information. Classification of multimedia information. Characteristics of multimedia systems. Interactive multimedia applications. Digitization, sampling and quantization.

C3. **Graphics (vectors) and Images (bitmaps):** Basic Concepts. Advantages and Disadvantages. Types and Origins. Technical Production. File Formats. Digital Camera. Image Manipulation.

C4. **Digital Video and Animation:** Basic Concepts. Types and Origins. Technical Production. Video Formats. Codecs. Digital Video Camera. Digital Video Authoring.

C5. **Audio Digital:** Basic Concepts. Digital Audio Formats. Voice recognition and synthesis. MIDI protocol. Digitizing and Sound Editing. MP3 compression.

3. COHERENCE BETWEEN PROGRAMME AND OBJECTIVES

Contents C1 is consistent with Objective O1, as it allows the student to be able to use a word processor and a spreadsheet in an efficient and effective way through the most modern computer tools, from the user's perspective.

Contents C2 is consistent with Objective O2 because they focus on the multimedia technology, which presents concepts and technologies related to multimedia, interactivity and digitization of information. Particular focus is given to the elements of the matrix multimedia (text, graphics, images, video, audio, animation).

Contents C3, C4 and C5 are consistent with Objective O2. Particular focus is given to the practical application of the concepts introduced in the theoretical component. We present tools to manipulate vector graphics, digital photography, audio, video and animation.

4. MAIN BIBLIOGRAPHY

Mandatory

Miranda, J.C (2020). *Apontamentos da disciplina*. Departamento de Informática. Moodle – ESTG/IPG.

Ribeiro, N. (2004*). Multimedia e Tecnologias Interactivas*. Lisboa: FCA- Editora de Informática.

Recommended

Fluckiger, F. (1995). *Understanding Networked Multimedia.* Prentice-Hall.

Dix, A., Finlay, J., Abowd, G. and Beale, R. (2004). *Human Computer interaction (3rd Edition)*. Prentice Hall.

5. TEACHING METHODOLOGIES (INCLUDING EVALUATION)

Teaching methodologies:

Lecture, Interactive lesson, Problem solving, Tutorials

Evaluation Rules:

- Continuous evaluation:

Practical Assignments (100%)

- Final Exam Evaluation (regular season):

Practical Assignments (80%) + Theoretical Test (20%) *

* The student must complete the practical component to be admitted to the exam.

- Final Exam Evaluation (supplementary or special season):

Theoretical-Practical Test (100%)

6. COHERENCE BETWEEN TEACHING METHODOLOGIES AND OBJECTIVES

Lectures are consistent with the objectives due to the need to provide students with the theoretical contents, including the various concepts related to the elements of the multimedia matrix (O2) and the concepts related to the creation and formatting of a written document and a spreadsheet (O1). Theoretical knowledge is transmitted to students through oral presentation using computer and audiovisual means.

Interactive Lessons are consistent with the objectives since student/teacher interaction helps with learning the concepts of the programme and the introduction of new ideas, perspectives and solutions. Specific tools are used for practical application of the concepts introduced in the theoretical component, particularly for manipulating the elements of the matrix multimedia (O2) and for the creation and formatting of a written document and a spreadsheet (O1). These are examples where students can exchange and enrich ideas allowing them to increase their knowledge.

Problem solving is consistent with the objectives since the application of theoretical concepts to solve real life practical exercises related to the manipulation of images, sound and video (O2) helps consolidate the concepts, highlighting the students expertise.

In the **Tutorial** sessions is supervised and controlled the independent work of the student. The presentation of the work is performed by students in the classroom and allows students to see their work validated by the teacher, as well as clarify all his doubts.

7. ATTENDANCE

Tutorial works must be submitted on the date defined in the schedule of discipline, available to students in the eLearning platform. Students with "student worker" status can present their works at a date to match with the teacher.