# Multimedia

**Academic Year: ( 2018 / 2019 )** **Review date: 29-05-2018**

**Department assigned to the subject: Computer Science and Engineering Department, Signal and Communications Theory**

**Coordinating teacher: GONZALEZ CARRASCO, ISRAEL**

**Type: Compulsory ECTS Credits : 6.0**

**Year : 4 Semester : 1**

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Linear Algebra, Computer Architecture

## OBJECTIVES

1. Theoretical knowledge on the development of multimedia systems (PO a) (CECRI1, CEIC1)
2. Capacity to define usability and utility requirements, designing multimedia presentations and systems for everyone according to a set of specifications (PO a, e) (CECRI1)
3. Capacity to design, implement and evaluate multimedia presentations and systems, applying both usability and accessibility guidelines as well as respecting standards and laws (PO a, c, e) (CECRI1)
4. Capacity to problem-solving and decision-making with initiative, autonomy, and creativity (PO c) (CECRI1, CEIC1)
5. Teamwork, taking different roles and proving its leadership (PO d) (CECRI1)
6. Capacity to communicate knowledge, skills, and capabilities (PO g) (CECRI1, CEIC1)

* ABET Program Outcomes
a. An ability to apply knowledge of mathematics, science and engineering.
c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
d. An ability to function on multidisciplinary teams.
e. An ability to identify, formulate, and solve engineering problems.
g. An ability to communicate effectively.

* ACREDITA+ Competences
CECRI1. Ability to design, develop, select, and evaluate computer-based systems and applications, guaranteeing their reliability, security and quality within existing ethical, legislative and normative constraints.
CEIC1. Ability to design and build digital system, including computers, computer-based systems, and communication systems.

## DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction to Multimedia
1.1. Definition
1.2. Content forms

2. Multimedia Design
2.1. Development process
2.2. Design of multimedia contents
2.3. Content Editing
2.4. Accessible multimedia

3. Multimedia Contents
3.1. Digitalization
3.2. Codification
3.2.1. Audio codification
3.2.2. Video codification

## LEARNING ACTIVITIES AND METHODOLOGY

- Theoretical lectures: 3.0 ECTS (PO a) (CECRI1, CEIC1)
Lectures in which theoretical concepts on multimedia contents will be presented.
- Practical lectures: 1.0 ECTS (PO a, c) (CECRI1, CEIC1)
Problem-based learning. Programming different codecs with the purpose of understanding those technical principles that underlie the development of multimedia systems. Use of different multimedia content analysis methods
- Design project: 1.5 ECTS (PO a, c, d, e, g) (CECRI1)
Project-based learning. Designing, editing, and programming a multimedia presentation within a work group. As a result, student may submit a dissertation and make a presentation.
- Individual study: 0.5 ECTS (PO a, c, e, g) (CECRI1, CEIC1)

## ASSESSMENT SYSTEM

- Lab exercises: 25-40% (PO a, c) (CEIC1)
- Design project: 25-40% (PO a, c, d, e, g) (CECRI1)
- Final exam: 50% (PO a, c, e, g) (CECRI1, CEIC1)

In order to pass the continuous assessment, it is mandatory to obtain a MINIMUM MARK OF 4 in the final exam.

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| **% end-of-term-examination:** | 40 |
| **% of continuous assessment (assigments, laboratory, practicals…):** | 60 |

## BASIC BIBLIOGRAPHY


- J. Krasner Motion Graphic Design: Applied History and Aesthetics, Focal Press.
- N. Champan; J. Chapman Digital Multimedia, John Willey.
- V. Costello Multimedia Foundations. Core Concepts for Digital Design, Focal Press.