## Multimedia content

**Academic Year:** ( 2022 / 2023 )                    **Review date:** 29/04/2022 10:45:07

**Department assigned to the subject: Computer Science and Engineering Department**

**Coordinating teacher: ONORATI  , TERESA**

**Type: Compulsory  ECTS Credits : 6.0**

**Year : 1 Semester : 2**

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

Markup languages, Information management, Information and Communication Theory

## DESCRIPTION OF CONTENTS: PROGRAMME

1. Theory concepts about Multimedia
   a. What is a multimedia system?
   b. The multimedia content: texts, audios, images, videos and animations
   c. History
   d. Impact: the digital revolution
   e. Examples of multimedia systems
2. Digitalisation and encoding of multimedia contents
   a. Audios: digitalisation, encoding and formats
   b. Images: digitalisation, encoding and formats
   c. Videos: digitalisation, encoding and formats
   d. Vector Formats
3. Multimedia content design
   a. Principles and basic elements of graphic design
4. Creation and editing tools of multimedia contents
5. Animation and interactivity of multimedia contents
6. Automatic analysis of multimedia contents
   a. Multimedia Content Processing
   b. Application examples: the new multimedia
      i. Mobile Devices
      ii. The social web
      iii. The internet of things

## LEARNING ACTIVITIES AND METHODOLOGY

Theoretical lectures: 2 ECTS (CG1, CG2, CB5, CE7, CE9)
   - Purpose: to achieve the specific cognitive competencies of the course.
   - Implementation: lectures in which theoretical concepts on designing, generating and editing multimedia content.

Practical lectures: 1.0 ECTS (CG2, CT1, CT2, CE7, CE9, CE10)
   - Purpose: to achieve the specific instrumental competences and develop attitudinal competences.
   - Implementation: labs in which technical issues related to designing, generating and editing multimedia content.

Practical exercises: 1.25 ECTS (CG2, CT1, CT2, CE7)
   - Purpose: to deepen the knowledge of specific topics of the course.
   - Implementation: to solve exercises about creating and editing multimedia content.

Final project: 1.25 ECTS (CB4, CT1, CT3, CE9, CE10)
   - Purpose: to develop both instrumental and attitudinal competencies.

- Implementation: designing and implementing a final project within a work group.

Final examination: 0.5 ECTS (CG1, CG2, CB5)
  - Purpose: to complete the development of specific cognitive and procedural capabilities.


## ASSESSMENT SYSTEM

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

The evaluation system includes the assessment of guided academic activities and practical cases, with the following weights:

Final project: 30% (CB4, CT1, CT3, CE9, CE10)
Students must submit two different exercises. The first one about prototyping represents a ten per cent (10%) of the final grade. The second one about implementing and documentation represents a twenty per cent (20%) of the final grade.

Practical exercises: 30% (CG2, CT1, CT2, CE7)
Students must submit two different exercises, each one of them represents a ten per cent (10%) of the final grade.

Examination: 40% (CG1, CG2, CB5)

Final examination is mandatory and final mark must be higher than 3 of 10.


## BASIC BIBLIOGRAPHY

 - Savage, Terry Michael; Vogel, Karla E An introduction to digital multimedia, Jones & Bartlett Learning, 2013


 - Vic Costello Multimedia Foundations, Focal Press, 2012

## ADDITIONAL BIBLIOGRAPHY

 - Chapman, N. P.; Chapman, J. Digital Multimedia, Wiley, 2009


 - Ralf Steinmetz, Klara Nahrstedt Multimedia applications, Springer, 2004