Multimedia content

Academic Year: (2021 / 2022) **Review date: 04-06-2021**

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

OBJECTIVES

BASIC AND GENERAL COMPETENCES
CG1 - To know and apply the fundamental principles and techniques for the management of information in the digital environment
CG2 - To know the theories, principles and instruments, classic and contemporary, of communication, organisation and management
of the information.
CB4 - Students can transmit information, ideas, problems and solutions to a specialised and non-specialised audience.
CB5 - Students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

CROSS COMPETENCES
CT1 - To know and be able to handle interpersonal skills on initiative and responsibility, negotiation, emotional intelligence, etc. as well as calculating tools that allow to consolidate the basic technical skills that are required in all professionals.
CT3 - To be able to organise and plan your work, making the right decisions based on available information, gathering and interpreting relevant data to make judgments and critical thinking within their area of ¿¿study.
CT4 - To be able to dedicate themselves to autonomous lifelong learning, allowing them to adapt to new situations.

SPECIFIC COMPETENCES
CE7 - To know and to handle tools of digital edition for the creation of contents
CE9 - To know the principles, techniques and tools of user center design for digital products, including multimedia content and to be able to apply usability techniques in digital environments and products.
CE10 - To know the principles and basic languages ¿¿of the programming and the marking of documents Web
CE12 - To understand the design and planning principles of a complex and fully functional interactive digital publication.

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

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.

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

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