UNIVERSIDAD DE CASTILLA - LA MANCHA
GUÍA DOCENTE

Course: COMMUNICATION TECHNOLOGIES	**Code:** 16504
Type: CORE COURSE	**ECTS credits:** 6
Degree: 401 - UNDERGRADUATE DEGREE PROGRAMME IN AUDIOVISUAL COMMUNICATION	**Academic year:** 2022-23
Center: 12 - FACULTY OF COMMUNICATION	**Group(s):** 30 31
Year: 1	**Duration:** First semester
Main language: Spanish	**Second language:**
Use of additional languages:	**English Friendly:** Y
Web site:	**Bilingual:** N

Lecturer: **ARTURO MARTINEZ RODRIGO** - Group(s): **30 31**

Building/Office	Department	Phone number	Email	Office hours
Facultad de Comunicación	SISTEMAS INFORMÁTICOS	4862	Arturo.Martinez@uclm.es	

2. Pre-Requisites

There are no prerequisites, just a positive attitude yowards technology

3. Justification in the curriculum, relation to other subjects and to the profession

The development of new communication technologies is advancing at an unprecedented and frenetic pace. Its impact on the world of communication is crucial to find out the new communicative social practices and the new uses of information. For this reason, it is vital that future communication professionals advance hand in hand with new technologies and are in possession of the knowledge and training that enables them as creators of content and information through vertiginous technical evolution, to serve the plural society in which they will have to work.

4. Degree competences achieved in this course

Course competences

Code	Description
CB05	Develop the learning skills necessary to undertake further studies with a high degree of autonomy.
CE17	Install, configure and maintain interactive multimedia web platforms for audio and video distribution.
CE18	Select and use technological tools for the creation of multimedia digital material, animations, virtual sets and interactive contents
CE19	Know the technologies for the storage, transmission and reception of audiovisual content, especially in digital systems and mobile.
CG02	Develop creativity to take risks in the definition of research or creative topics from an innovative perspective that contributes to the knowledge, interpretation or development of audiovisual languages and/or formats.
CG03	Use the basic tools of information and communication technologies necessary for the exercise of professions linked to audiovisual communication.
CG04	Expose the results of academic work in writing, orally or by other means, in accordance with the canons of the communication disciplines.
CG05	Know the constitutional values, ethical principles and deontological rules applying to audiovisual communication.
CG06	Know the state of the world and its recent historical evolution as well as acquiring the concepts necessary for understanding its political, economic, technological and sociocultural dimensions in such a way that they serve as an instrument in the resolution of professional problems and challenges.
CG07	Acquire the ability to work in a team, face collective challenges and cooperatively solve problems, respecting the diversity of the participants and of their contributions.
CT01	Learn a second foreign language.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Manipulate social media and new technologies at user level with special emphasis on communicative work.

Understand and use the web and cloud storage technologies for the dissemination of audiovisual and interactive content.

Know the equipment and techniques for recording and editing audiovisual events.

Know the conceptualisation of the discursive genres of reportage and documentary as well as transmedia production, differentiating their peculiarities and historical developments.

Sort and structure the available information and plan the problem-solving process.

Use computer techniques for the manipulation of the audiovisual signal.

Adapt to constant technological change.

6. Units / Contents

Unit 1: Communication and Information Technologies. From analog to digital field.
 Unit 1.1 Concept of information and signal.
 Unit 1.2 Characteristics of a signal: amplitude, period and phase.
 Unit 1.3 Representation of signals in time and frequency: spectrogram.
 Unit 1.4 Waveform Monitor and Spectrogram.
 Unit 1.5 Human being audition system.
 Unit 1.6 Bandwith and Filters. Equalization.
 Unit 1.7 Pure tone Vs. complexes signals.
 Unit 1.8 Intensity and Power.
 Unit 1.9 The non-linear response from ear. The Decibel.
 Unit 1.10 PRACTICE 1. Introduction to Audiovisual Technological Language Through Audacity.

Unit 2: From Analog to Digital: Audio.
 Unit 2.1 Historical Evolution of Digital Devices.
 Unit 2.2 Analog Signals Vs. Digital Signals. Advantages and disadvantages.
 Unit 2.3 The Analog-Digital Converter. Sampling, Quantification and Coding.
 Unit 2.4 Numbering Systems. Decimal and Binary.
 Unit 2.5 The CODECS. Information Compression Algorithms.
 Unit 2.6 Introduction to Information Transmission: The Bit Rate.
 Unit 2.7 PRACTICE 2: Recording and Edition of a Sound Work: the Podcast.

Unit 3: The Digital Image.
 Unit 3.1 The Bitmaps.
 Unit 3.2 The Digitization of the Image.
 Unit 3.3 The Color Models.
 Unit 3.4 Vector representation.
 Unit 3.5 Basic Principles of Video.
 Unit 3.6 PRACTICE 3: The Digital Image Through Photoshop.

Unit 4: Computing, Communication Networks and the Internet.
 Unit 4.1 Computer Networks.
 Unit 4.2 Basic Elements of a Network.
 Unit 4.3 Types of Networks according to their Extension.
 Unit 4.4 Internet: the Network of Networks.
 Unit 4.5 Communication protocols on the Internet.
 Unit 4.6 The domain and the URL.
 Unit 4.7 Client-Server architecture.

Unit 5: New Information Technologies: Web 2.0 and Digital Tools.
 Unit 5.1 The Logical basis of the Web.
 Unit 5.2 The Social Foundation of Web 2.0.
 Unit 5.3 Web 2.0 tools.
 Unit 5.4 The Future of Web 2.0: The Semantic Web.
 Unit 5.5 PRACTICE 4: Creation of a Web Page using the WordPress CMS.

Unit 6: Compresion, Almacenamiento y Distribución de la señal Audiovisual.
 Unit 6.1 Information Compression. The CODEC.
 Unit 6.2 The Transmission of Digital Information. The Bitrate.
 Unit 6.3 Audiovisual Signal Connectors and Cables.
 Unit 6.4 The Distribution of the Audiovisual Signal by Internet.
 Unit 6.5 The Distribution of the Audiovisual Signal by Radiofrequency.
 Unit 6.6 The Distribution of the Audiovisual Signal by Satellite.

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	CB05 CE18 CE19 CG05 CG06	0.8	20	N	-	
Class Attendance (practical) [ON-SITE]	Practical or hands-on activities	CE17 CE18 CG02 CG03 CG04 CG07	0.96	24	N	-	
Group tutoring sessions [ON-SITE]	Group tutoring sessions	CG07	0.16	4	N	-	
Progress test [ON-SITE]	Assessment tests	CB05 CE18 CE19 CG04 CG05 CG06 CT01	0.12	3	Y	Y	
Practicum and practical activities report writing or preparation [OFF-SITE]	Guided or supervised work	CE19	2.4	60	Y	Y	
Study and Exam Preparation [OFF-SITE]	Self-study	CT01	1.2	30	N	-	
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises	CG03 CG07	0.2	5	Y	N	
Final test [ON-SITE]	Assessment tests	CG04	0.16	4	Y	Y	
		Total:	**6**	**150**			
		Total credits of in-class work: 2.4					**Total class time hours: 60**
		Total credits of out of class work: 3.6					**Total hours of out of class work: 90**

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Final test	25.00%	55.00%	
Practicum and practical activities reports assessment	45.00%	45.00%	Evaluation and defense of the reports, from the different practices proposed throughout the course.
Progress Tests	25.00%	0.00%	Evaluation of the progress tests that will be performed throughout the course.
Assessment of problem solving and/or case studies	5.00%	0.00%	
Total:	**100.00%**	**100.00%**	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

Evaluation criteria for the final exam:

Continuous assessment:

- To pass the course, it is necessary to score at least a 5 on average taking into account all the evaluable items and their weightings.

- It is necessary to obtain a minimum grade of 4 in the average grade of the two theory partial exams (there is no minimum grade for each part) and in the average grade of practices to be able to pass the course, as long as the imposed premise is met in the previous evaluation criterion.

- By default, all students will start in continuous assessment mode. Any student may switch to the non-continuous assessment modality as long as they have NOT participated during the class teaching period in assessable activities that together account for at least 50% of the total assessment of the subject. If a student has reached that 50% of evaluable activities or if, in any case, the class period has ended, they will be considered in continuous evaluation without the possibility of changing the evaluation modality.

Non-continuous evaluation:

- To pass the course, it is necessary to score at least a 5 on average taking into account all the evaluable items and their weightings.

- It is necessary to obtain a minimum mark of 4 in the final theory exam and in the average mark of practices to be able to pass the course, as long as the premise imposed in the previous evaluation criteria is met.

Specifications for the resit/retake exam:

- Progress tests will be pass through a final exam carried out during the official schedule of extraordinary call, determined by the Faculty.

- In case of failing the practices, only those ones that are failed will be resubmitted, and they will be defended by taking a practice exam in the official schedule of extraordinary announcement determined by the Faculty.

- In case of falling the practics, only those that are failed will be recovered by taking a practic exam during the official timetable for the extraordinary call imposed by the centre.

Specifications for the second resit / retake exam:

- The same ones that in the extraordinary call.

9. Assignments, course calendar and important dates

Not related to the syllabus/contents	
Hours	**hours**
Group tutoring sessions [PRESENCIAL][Group tutoring sessions]	4
Progress test [PRESENCIAL][Assessment tests]	3
Final test [PRESENCIAL][Assessment tests]	4
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	5

Unit 1 (de 6): Communication and Information Technologies. From analog to digital field.	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	5
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	5
Practicum and practical activities report writing or preparation [AUTÓNOMA][Guided or supervised work]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	6

Unit 2 (de 6): From Analog to Digital: Audio.	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	5
Practicum and practical activities report writing or preparation [AUTÓNOMA][Guided or supervised work]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	6

Unit 3 (de 6): The Digital Image.	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	5
Practicum and practical activities report writing or preparation [AUTÓNOMA][Guided or supervised work]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	6

Unit 4 (de 6): Computing, Communication Networks and the Internet.	
Activities	**Hours**

Class Attendance (theory) [PRESENCIAL][Lectures]	4
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	5
Practicum and practical activities report writing or preparation [AUTÓNOMA][Guided or supervised work]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	6

Unit 5 (de 6): New Information Technologies: Web 2.0 and Digital Tools.

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	4
Study and Exam Preparation [AUTÓNOMA][Self-study]	6

Unit 6 (de 6): Compresion, Almacenamiento y Distribución de la señal Audiovisual.

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4

Global activity

Activities	hours
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	5
Class Attendance (theory) [PRESENCIAL][Lectures]	20
Study and Exam Preparation [AUTÓNOMA][Self-study]	30
Practicum and practical activities report writing or preparation [AUTÓNOMA][Guided or supervised work]	60
Class Attendance (practical) [PRESENCIAL][Practical or hands-on activities]	24
Group tutoring sessions [PRESENCIAL][Group tutoring sessions]	4
Progress test [PRESENCIAL][Assessment tests]	3
Final test [PRESENCIAL][Assessment tests]	4
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Rodriguez Alonso, Hugo.	Imagen Digital Conceptos Basicos (BIT & PIXEL)	Marcombo		978-8426719065	2013	
Rodríguez Herrera, Daniel.	Ceros y unos: La increíble historia de la informática, internet y los videojuegos (Ensayo)	Ciudadela Libros		978-8496836808	2011	
Gómez del Pozuelo, Natalia.	Por dónde empiezo 2.0: Consejos básicos para tener una adecuada presencia en la red (Gestión del conocimiento)	Editorial Empresa Activa, col. Gestión del conocimiento.		978-8492452859	2011	