



IDENTIFYING DATA

Audiovisual Technology

Subject	Audiovisual Technology			
Code	V05G300V01631			
Study programme	(*)Grao en Enxeñaría de Tecnoloxías de Telecomunicación			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	3rd	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Fernández Hermida, Xulio			
Lecturers	Fernández Hermida, Xulio Torres Guijarro, María Soledad			
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General description	In this subject the student will learn to design audiovisual systems, with respect to sound take and sound reinforcement, image take and visual coating, synchronisation, wiring, connections and supply. Indoor and outdoor applications of audiovisual networks, as well as distinct multimedia platforms, will be analysed.			

Competencies

Code	
B1	CG1: The ability to write, develop and sign projects in the field of Telecommunication Engineering, according to the knowledge acquired as considered in section 5 of this Law, the conception and development or operation of networks, services and applications of Telecommunication and Electronics.
B6	CG6: The aptitude to manage mandatory specifications, procedures and laws.
B9	CG9: The ability to work in multidisciplinary groups in a Multilanguage environment and to communicate, in writing and orally, knowledge, procedures, results and ideas related with Telecommunications and Electronics.
B12	CG12 The development of discussion ability about technical subjects
C36	CE36/SI3 The capacity to implement projects at places and installations for the production and recording of audio and video signals.
C38	CE38/SI5 The ability to create, modify, manage, broadcast and distribute multimedia contents taking into account the use and accessibility criteria to audiovisual, broadcasting and interactive services.
D4	CT4 Encourage cooperative work, and skills like communication, organization, planning and acceptance of responsibility in a multilingual and multidisciplinary work environment, which promotes education for equality, peace and respect for fundamental rights.

Learning outcomes

Expected results from this subject	Training and Learning Results	
Understand which elements have an influence on audiovisual quality.		C36 C38
Design a system of sound take and sound reinforcement given a certain enclosure, comparing different subsystems and elements.	B1 B6	C36
Create atmospheres addressing acoustic and visual appearances	B12	C36
Design the wiring and connections of an audiovisual network for his control and supply	B1 B6	C36 C38
Analyse different indoor and outdoor applications of Audiovisual Networks.		C36 C38
Apply and analyse distinct multimedia systems: videoconference, streaming, audiovisual databases, synchronisation, metadata processing, exchange of multimedia contents.	B6 B12	C38

Organize a working group to carry out a project, including the following:	B6	D4
* technical ability to collect information, interpret technical specifications of equipment, discuss different options and select a combination of certain equipment.	B9	
* use of theoretical calculations and simulation software tools to support the design of sound systems and visual coating.	B12	
* conduction of meetings, discussion of partial results and oral presentation of a definitive work in front of a demanding audience.		
* writing of progress reports, minutes of meetings and a final technical report.		
* adaptation to new environments, management of internal roles in the group and conflict resolution.		

Contents

Topic	
Sound reinforcement	Sizing and distribution in the processes of take and presentation of sound
Visual overlay	Design of systems of visual take and presentation indoor and outdoor. Sizing and distribution of the visual coverage, in the processes of take and presentation
Connections and supply	Design of the wiring and connecting of an audiovisual network and his supply. Audiovisual networks, indoor and outdoor applications.
Synchronisation and control	Synchronisation of audio and video signals in an audiovisual network. Control systems. Audiovisual quality: sound/image interaction. Ambient creation addressing visual and acoustic issues
Multimedia systems	Videoconference, streaming, audiovisual databases, synchronisation, metadata procesing, exchange of multimedia contents

Planning

	Class hours	Hours outside the classroom	Total hours
Practice in computer rooms	12	0	12
Projects	7	57	64
Master Session	21	42	63
Short answer tests	2	0	2
Reports / memories of practice	0	9	9

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Practice in computer rooms	Use and adjustment of analysis tools and algorithms, identifying which should be used in each situation posed.
Projects	Collaborative work in reduced groups on a complex design that applies several topics covered in the subject. The work is periodically followed-up and it fosters working in group, role sharing, information sharing, planning and public defending of results.
Master Session	Presentation by the teacher of the contents of the subject, fostering the critical discussion of the concepts. The theoretical grounds of algorithms and procedures used to resolve problems are given.

Personalized attention

Methodologies	Description
Master Session	Students will have the opportunity to solve doubts in personalised attention sessions. These sessions will take place: - Individually or in reduced groups (typically with a maximum of 2-3 students). - Unless otherwise stated, with previous appointment with the corresponding teacher. The appointment should be required and agreed by e-mail, preferably in the timetable and place officially assigned. - The group of students developing a project will attend periodic follow-up meetings.
Practice in computer rooms	Students will have the opportunity to solve doubts in personalised attention sessions. These sessions will take place: - Individually or in reduced groups (typically with a maximum of 2-3 students). - Unless otherwise stated, with previous appointment with the corresponding teacher. The appointment should be required and agreed by e-mail, preferably in the timetable and place officially assigned. - The group of students developing a project will attend periodic follow-up meetings.
Projects	Students will have the opportunity to solve doubts in personalised attention sessions. These sessions will take place: - Individually or in reduced groups (typically with a maximum of 2-3 students). - Unless otherwise stated, with previous appointment with the corresponding teacher. The appointment should be required and agreed by e-mail, preferably in the timetable and place officially assigned. - The group of students developing a project will attend periodic follow-up meetings.

Assessment					
	Description	Qualification	Training and Learning Results		
Projects	Assessment of a project, developed through the four-month period, including the preparation and public presentation of a report.	40	B1 B6 B9 B12	C36 C38	D4
Short answer tests	Assessment of a written exam, with brief questions and problems.	50	B1 B6 B12	C36 C38	
Reports / memories of practice	Assessment of a written inform that describes the work of several weeks in the computer classroom.	10		C36	

Other comments on the Evaluation

Following the study programme guidelines, the student can choose between two assessment methods: CONTINUOUS ASSESMENT, that is the recommended method linked to the educational activities and NON CONTINUOUS ASSESMENT, only recommended for those students which can not follow the first method.

CONTINUOUS ASSESMENT

The continuous assessment consists of the tests detailed in the following. The student opts by the continuous assessment method once she/he signs the document of commitment that will be available at week 1-3, so that she/he can begin the work in the corresponding group. Once signed, it is assumed that the student has taken the examination session and will be given the mark resulting of the application of the criterion detailed in the following, regardless of wheter she/he takes the final exam or not.

Types and assessment of activities:

Reports of the practical sessions (Weight: 10%): will be assessed around weeks 6 and 11.

Projects (Weight 40%): will be assessed around week 12

Proof of short answer (Weight: 50%): it coincides with the final exam date. It includes all the contents of the subject.

The final note corresponds to the sum of the marks obtained in all the activities weighted by the corresponding percentages. The student should obtain, at least, a grade of 4 points over ten in each type activity, and a final grade of 5 points to pass the subject.

NON CONTINUOUS ASSESMENT

If the student does not sign the document of commitment, she/he will be evaluated through a final examination in the official date assigned by the Centre. This exam will consist of two parts, of equal weight in the final mark: a written part that may include all the topics of the subjet, and an oral part relative to additional work. This additional work should be presented previously to the teacher. The student may take part in the continuous assessment activities of the practical sessions, but they will not be assessed in her/his case. The additional work to deliver will be specified in week 6 of term, and will have to be delivered to the teacher a week before the final exam.

The student should obtain, at least, a grade of 4 points over ten in each type activity, and a final grade of 5 points to pass the subject.

Sources of information

John Eargle, Chris Foreman, **Audio Engineering for Sound Reinforcement**,

Gary Davis and Ralph Jones, **Sound Reinforcement Handbook**,

Philip Giddings, **Audio Systems Design and Installation**,

Hilary Wyatt y Tim Amyes, **Postproducción de Audio para TV y Cine**,

Rüdiger Ganslandt, Harald Hofmann, **Handbook of Lighting Design**,

In addition to the bibliography mentioned the student will be provided of:

* Outline of the practices: formulation of each practical session

* Copy of the graphic material used in the classroom

Recommendations

Subjects that are recommended to be taken simultaneously

Room Acoustics/V05G300V01635

Imaging Systems/V05G300V01633

Subjects that it is recommended to have taken before

Fundamentals of Sound and Image/V05G300V01405

Audio Systems/V05G300V01532

Video and Television/V05G300V01533
