



COURSE: DIGITAL AUDIO PROCESSING FOR TELECOMMUNICATIONS		
DEGREE: AUDIOVISUAL SYSTEM ENGINEERING	YEAR: 2014/2015	TERM: 1

La asignatura tiene 29 sesiones que se distribuyen a lo largo de 14 semanas. Los laboratorios pueden situarse en cualquiera de ellas. Semanalmente el alumnos tendrá dos sesiones, excepto en un caso que serán tres

WEEKLY PLANNING									
WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	Indicate YES/NO If the session needs 2 teachers	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	Course Presentation Topic 1: Introduction to audio signal - Audio signal - Audio signal parameters: time and frequency domains. - Audio quality metrics.	X				Study of the course materials and analysis of bibliographic references.	1,6	
1	2	Topic 1: Exercises		X			Solve Exercises.	1,6	
2	3	Topic 2: Digital Audio Fundamentals (I) - A/D converters					Study of the course materials and analysis of bibliographic references.	1,6	
2	4	Simulation Exercise: Audio quality metrics (T1)		X	Computer Lab. 4.0B01		Development of algorithms to analyze some parameters related to	1,6	

						audio quality.		
3	5	Topic 2: Digital Audio Fundamentals (II) - D/A converters	X			Study of the course materials and analysis of bibliographic references.	1,6	
3	6	Topic 2: Exercises (A/D & D/A converters)		X		Solve Exercises.	1,6	
4	7	Topic 3: Frequency Processing (I) - Introduction - Audio filters - Pitch Correction	X			Study of the course materials and analysis of bibliographic references.	1,6	
4	8	Simulation Exercise: Digitalization (T2)		X	Computer Lab. 4.0B01	Development of algorithms for a digitalization technique.	1,6	
5	9	Topic 3: Frequency Processing (II) - Graphic Equalizers. - Parametric, semi-parametric equalizers and notch filters. - Applications of equalizers.	X			Study of the course materials and analysis of bibliographic references.	1,6	
5	10	Topic 3: Exercises (Frequency processing)		X		Solve Exercises.	1,6	
6	11	Topic 4: Mixing consoles (I): - Definition and goals - Sections and types - Case of study: analog mixing console.	X			Study of the course materials and analysis of bibliographic references	1,6	
6	12	Topic 4: Exercises I Analog mixing consoles		X		Solve Exercises.	1,6	
7	13	Topic 4: Mixing consoles (II): Digital Mixing consoles - Introduction and types - Case of study: Digital Mixing consoles	X			Study of the course materials and analysis of bibliographic references	1,6	
7	14	Topic 4: Exercises II Digital Mixing consoles		X		Solve Exercises.	1,6	
8	15	Topic 5: Dynamics Processing (I) - Detection circuit - Compressor	X			Study of the course materials and analysis of bibliographic references	1,6	
8	16	Lab Session 1: - P1: Frequency Processing - P3I: Digital mixing console (I)		X	Lab. 7.1J10	Write a report answering the questions proposed in the sessions guideline.	1,6	
9	17	Topic 5: Dynamics Processing (II) - Expander, Noise Gate - De-esser - Compander	X			Study of the course materials and analysis of bibliographic references	1,6	
9	18	Lab Session 2: - P1: Frequency Processing - P3I: Digital mixing console (I)		X	Lab. 7.1J10	Write a report answering the questions proposed in the sessions guideline.	1,66	
10	19	Topic 6: Time/Delay Processing (I) - Delay Lines	X			Study of the course materials and analysis of bibliographic references	1,6	

		- Artificial Reverberation						
10	20	Topic 5: Exercises (Dynamics Processing)		X			Solve Exercises.	1,6
11	21	Topic 6: Time/Delay Processing (I) - Other audio effects - Commercial Devices	X				Study of the course materials and analysis of bibliographic references	1,6
11	22	Topic 6: Exercises (Time/Delay Processing)		X			Solve Exercises.	1,6
12	23	Topic 7: Audio Coding Systems and Standards (I) - Audio perception - Audio Lossless Coding	X				Study of the course materials and analysis of bibliographic references	1,6
12	24	Lab Session 3 - P2: Dynamics Processing - P3II: Digital mixing console (II)		X	Lab. 7.1J10		Write a report answering the questions proposed in the sessions guideline.	1,6
13	25	Topic 7: Audio Coding Systems and Standards (II) - Audio Lossless Coding Standards - Audio lossy compression principles	X				Study of the course materials and analysis of bibliographic references	1,6
13	26	Simulation Exercise: Time/Delay Processing (T6)		x	Computer Lab. 4.0B01		Development of algorithms for temporal audio processing.	1,6
14	27	Topic 7: Audio Coding Systems and Standards (III) - Audio lossy compression principles - Audio lossy compression standards	X				Study of the course materials and analysis of bibliographic references	1,6
14	28	Topic 7: Exercises (Audio Coding)					Solve Exercises.	1,6
	29	Lab Session 4 (additional): week 12 - P2: Dynamics Processing - P3II: Digital mixing console (II)		X	Lab. 7.1J10		Write a report answering the questions proposed in the sessions guideline.	1,6
Subtotal 1								48,33
Total 1 (Hours of class plus student homework hours between weeks 1-14)								

15		Tutorials, handing in, etc						
16		Assessment						3
17								
18								
Subtotal 2								3
Total 2 (Hours of class plus student homework hours between weeks 15-18)								

TOTAL (<i>Total 1 + Total 2. Maximum 180 hours</i>)	
--	--