

COURSE: Electronic Components and Circuits
 DEGREE: Sound and Imaging Engineering

YEAR: 2nd
 TERM: 1st

The course has 29 sessions distributed in 14 weeks. The duration of each session is 100 minutes (50 + 50) with 10 minutes breaks.
 The laboratory sessions are included in 4 of these sessions with a duration of 100 minutes.
 The student will have 2 sessions per week.

WEEKLY PLANNING									
Week	Session	Description	Group		Location	Studen Weekly Work			
			Lecture	Seminar		Description	Class Hours	Homework Hours	
1	1	Course Presentation. Electronic and Photonic Components. Application circuits and characterization 1: Passive components	X			• Theory Study • Exercises Resolution • Work with SPOC DTE Laboratory	1.67	7	
	2	Electronic and Photonic Components. Application circuits and characterization 2: Passive Components Exercises. Resistive Circuits Analysis		X	Lab.		1.67		
2	3	Electronic and Photonic Components. Application circuits and characterization 3: RC Circuits Analysis	X			• Theory Study • Exercises Resolution	1.67	5	
	4	Electronic and Photonic Components. Application circuits and characterization 4: PRACTICE 1 Laboratory Instrumentation and Measurement Techniques		X		• Preparation of practice 1. Comprehension of the practice manual and the necessary theoretical calculations	1.67		
3	5	Electronic and Photonic Components. Application circuits and characterization 5: Electronic Circuits Simulation Tools. RC Circuits Characterization	X			• Exercises Resolution • Comprehension of the introduction to electronic circuits simulation tools	1.67	7	
	6	Electronic and Photonic Components. Application circuits and characterization 6: PRACTICE 2 Passive Components Circuits		X	Lab.	• Preparation of practice 2. Comprehension of the practices manual and the necessary theoretical calculations	1.67		
4	7	Electronic and Photonic Components. Application circuits and characterization 7: Semiconductor Fundamentals. Diodes	X			• Theory Study • Exercises Resolution	1.67	6	
	8	Electronic and Photonic Components. Application circuits and characterization 8: Diodes Application Circuits. Exercises with Diode Circuits		X			1.67		
5	9	Electronic and Photonic Components. Application circuits and characterization 9: Transistors	X			• Theory Study • Exercises Resolution	1.67	6	
	10	Electronic and Photonic Components. Application circuits and characterization 10: Exercises with Polarization Circuits of Transistors		X			1.67		
6	11	Electronic and Photonic Components. Application circuits and characterization 11: Photonic Devices	X			• Theory Study • Exercises Resolution • MIDTERM EXAM STUDY	1.67	7	
	12	Electronic and Photonic Components. Application circuits and characterization 12: Exercises with Photonic Devices and Applications		X			1.67		
7	13	MIDTERM EXAM I Electronic and Photonic Components. Application Circuits and Characterization	X			• Exercises Resolution • MIDTERM EXAM STUDY	1.67	5	
	14	Electronic and Photonic Components. Application circuits and characterization 14: Microsystems		X			1.67		
8	15	Electronic Signal Amplifiers 1: Signal Amplifiers Introduction. Definition and parameters	X			• Theory Study • Exercises Resolution	1.67	6	
	16	Electronic Signal Amplifiers 2: Signal Amplifiers with Discrete Components. Example.		X			1.67		
9	17	Electronic Signal Amplifiers 3: Signal Amplifiers with Discrete Components at Medium Frequencies	X			• Theory Study • Exercises Resolution	1.67	6	
	18	Electronic Signal Amplifiers 4: Exercises of amplifiers with discrete components		X			1.67		
10	19	Electronic Signal Amplifiers 5: Current Sources and Differential Pair	X			• Theory Study • Exercises Resolution	1.67	6	
	20	Electronic Signal Amplifiers 6: PRACTICE 3: Characterization of Amplifiers at Medium Frequencies			Lab./Virtual Classroom	• Preparation of practice 3. Comprehension of the practice manual and the necessary theoretical calculations	1.67		
11	21	Electronic Signal Amplifiers 7: Active Loads and Integrated Amplifiers	X			• Exercises Resolution • MIDTERM EXAM STUDY	1.67	7	
	22	Electronic Signal Amplifiers 8: Exercises of Integrated Amplifiers		X			1.67		
12	23	MIDTERM EXAM II Signal Amplifiers at Medium Frequencies	X			• Exercises Resolution • MIDTERM EXAM STUDY	1.67	6	
	24	Electronic Signal Amplifiers 10: Operational Amplifier and Application Circuits		X			1.67		
13	25	Frequency Response 1: Frequency Response Introduction	X			• Theory Study • Exercises Resolution	1.67	6	
	26	Frequency Response 2: Frequency Response of Signal Amplifiers		X			1.67		
14	27	Frequency Response 3: Exercises of Frequency Response	X			• Exercises Resolution • Preparation of practice 3. Comprehension of the practice manual and the necessary theoretical calculations	1.67	6	
	28	Electronic Signal Amplifiers 6: PRACTICE 4: Frequency Response of Amplifiers		X	Lab./Virtual Classroom		1.67		
14	29	STUDY CASE	X			Study Case Work	1.67	5	
							Subtotal 1	48.35	91
Total 1 (Class hours and homework hours between weeks 1-14)									139.35
15		Make-up classes, tutorials, homeworks handing in, etc					1.67		
16-18		Exam preparation and exam					3	16	
							Subtotal 2	4.67	16
Total 2 (Class hours and homework hours between weeks 15-18)									20.67
							TOTAL	160	