Universidad Carlos III de Madrid

COURSE: Electronic Components and Circuits	YEAR (19-20):	2nd
DEGREE: Telematics Engineering	TERM:	1st

The course has 27 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 150 minutes.
The student will have a maximum of 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 1: Passive components	X			• Comprehension of the introduction to laboratory instrumentation and measurement techniques	1,67	7
	2	Laboratory Instrumentation and Measurement Techniques		X	Lab.		1,67	
2	3	Electronic and Photonic Components 2: Semiconductor fundamentals	X			• Theory • Exercises	1,67	5
	4	Electronic and Photonic Components 3: Exercises with electronic components in current technologies		X			1,67	
3	5	Electronic and Photonic Components 4: Photonic components	X			• **Preparation of practice 1.** Comprehension of the practices manual and the necessary theoretical calculations	1,67	7
	6	Laboratory practice 1		X	Lab.		2,50	
4	7	Electronic and Photonic Components 5: Applications of electronic and photonic components	X			• Proposed exercises solving	1,67	7
	8	Electronic and Photonic Components 6: Exercises with electronic and photonic components in current applications		X			1,67	
5	9	Electronic and Photonic Components 7: Applications of electronic and photonic components	X			• Proposed exercises solving • **Preparation of practice 2.** Comprehension of the practices manual and the necessary theoretical calculations	1,67	7
	10	Laboratory Practice 2		X	Lab.		2,50	
6	11	Signal Electronic Amplifiers 1: Concept and characteristic parameters of amplifiers	X			• Proposed exercises solving • Preparation of the Electronic Circuits simulation tools session	1,67	7
	12	Electronic Circuits Simulation Tools		X	Computers		1,67	
7	13	Signal Electronic Amplifiers 2: The Ideal Operational Amplifier and application circuits	X			• Proposed exercises solving	1,67	5
	14	Signal Electronic Amplifiers 3: Exercises with IOA		X			1,67	
8	15	Signal Electronic Amplifiers 4: Bias point and operation at medium frequencies	X			• Proposed exercises solving	1,67	5
	16	Signal Electronic Amplifiers 5: Exercises with amplifiers at medium frequencies		X			1,67	
9	17	Signal Electronic Amplifiers 6: Amplification examples with discrete components	X			• Proposed exercises solving	1,67	5
	18	Signal Electronic Amplifiers7: Exercises of amplifiers with discrete components		X			1,67	
10	19	Signal Electronic Amplifiers 8: Applications	X			• Preparation for the Midterm Exam	1,67	7
	20	Signal Electronic Amplifiers 9: Exercises with integrated amplifiers		X			1,67	
11	21	MIDTERM EXAM	X			• **Midterm Exam** • **Preparation of practice 3**. Comprehension of the practices manual and the necessary theoretical		6
	22	Laboratory Practice 3		X	Lab.		2,50	
12	23	Frequency Response 1: Concept of bandwidth, cut-off frequencies. Components that affect frequency response.	X			• **Preparation of practice 4**. Comprehension of the practices manual and the necessary theoretical calculations	1,67	5
	24	Laboratory Practice 4		X	Lab.		2,50	
13	25	Frequency Response 2: Frequency response of amplifiers	X			• Proposed exercises solving	1,67	7
	26	Frequency Response 3: Exercises		X			1,67	
14	27	Study cases 1: Proposal	X			• Proposed exercises solving	1,67	5
14	28	Study cases 2: Solving		X			1,67	
						Subtotal 1	**48,34**	**85**
			Total 1 (Class hours and homework hours between weeks 1-14)				133,34	
15		Make-up classes, tutorials, homeworks handing in, etc					1,67	
16-18		Exam preparation and exam					3	12
						Subtotal 2	4,67	12
			Total 2 (Class hours and homework hours between weeks 15-18)				16,67	
						TOTAL	**150**	