COURSE: MICROELECTRÓNICA		
DEGREE: INGENIERÍA EN ELECTRÓNICA INDUSTRIAL Y AUTOMÁTICA	**YEAR: 4th**	**TERM: 2nd**

The course has 27 sessions distributed during 14 weeks. The duration of each session is 100 minutes (50 + 50) with a 10 minutes break.
The laboratory sessions are set in four of these sessions with duration of 100 minutes.
There is a maximum number of two sessions per week.

PLANIFICACIÓN SEMANAL DE LA ASIGNATURA

WEEK	SESSION	DESCRIPTION OF THE SESSION CONTENTS	GROUP	SEMINAR	Indicate if it is a different location from the classroom	STUDENT WEEKLY HOMEWORK		
						DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h per week)
1	1	Introduction to the course. Chapter 1. Introduction to Microelectronics. CMOS review.		27jan		Required resources recopilation (tools, literatura, etc.). Estudio de los temas desarrollados	1,67	
1	2	Chapter 2. Manufacturing and packaging of ICs. Involved processes in CMOS circuit manufacturing. Passive Components. Packaging and mounting ICs	29jan		Video	Theoretical concepts study	1,67	3
2	3	Chapter 2. Application Specific Integrated Circuits and configurable devices. Digital ICs Analysis and Design in physical level. Masks and design rules.		3feb		Theoretical concepts study	1,67	
2	4	Chapter 3. Microwind. Layout and Simulation of Integrated Circuits	5feb		Inform. lab	Theoretical concepts study. Ejercicios	1,67	4
3	5	Chapter 4 Technological aspects of Digital ICs. Delay, Clocking and Supply.		10feb		Theoretical concepts study	1,67	
3	6	Ejemplos de aplicación. Ejercicios de examen	12feb			Exercises	1,67	5
4	7	Chapter 4. Technological aspects of Digital ICs. Latch-up, noise and metastability.		17febr		Theoretical concepts study	1,67	
4	8	**Practice 1. Physical Design of a simple digital circuit.**	19feb		Lab	Theoretical concepts study. Practices preparation	1,67	7
5	9	EVALUATION FIRST PART		24feb		Theoretical concepts study	1,67	7

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						DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h per week)
5	10	**Practice 2. Physical Design of a complex digital circuit.**	26feb		Lab	Practices preparation	1,67	
6	11	Chapter 5. Basic analog Integrated Circuits: source current, current mirror, differential pair and cascode		2mar		Theoretical concepts study	1,67	
6	12	Chapter 5. Application examples	4mar			Exercises	1,67	3
7	13	Chapter 6. Integrated Amplifiers (I): Common source amplifier, Small-signal model. Common drain amplifier. Cascode Amplif.		9mar		Theoretical concepts study	1,67	
7	14	Chapter 6. Integrated amplifiers Applications (I): Amp. CS Miller compensation. Transimpedance amplify.. AB class Differential Amplifier. DC, AC, CMRR, PSRR, Slew-Rate. Matching y Layout. Application examples.	11mar			Exercises	1,67	3
8	15	Chapter 6. Integrated amplifiers (III): Operational Amplifiers. Ideal O.A. Circuits with O.A. OTA Circuit. Application examples.		16mar		Theoretical concepts study	1,67	
8	16	Chapter 7. ICs Applications (I) Digital PLLs. Phase detector. VCO. Phase Loop Locked, DLL. Examples: Clock recovery circuits.	18mar			Theoretical concepts study	1,67	4
9	17	Chapter 7. ICs Applications. (II) Data Converters Fundamentals. S&H. Commuted Capacitances. D/A and A/D. Mixed Signal Circuits Layout.		30mar		Exercises	1,67	
9	18	**Practice 3. Physical Design of a simple analog circuit**	1apr		Lab	Theoretical concepts study. Practices preparation	1,67	7
10	19	Chapter 7. ICs Applications. (II) Application examples. Conv. D/A R-2R. Conv. A/D Flash and SAR		6 april		Estudio de los temas desarrollados	1,67	
10	20	**Practice 4. Physical Design of a complex analog circuit**	8 april		Lab	Exercises. Practices preparation	1,67	7
11	22	Chapter **8. Tools for designing Integrated Circuits. Project definition. Digital Part.**		13 april	Lab	Theoretical concepts study Practices preparation	2,5	
11	21	EVALUATION PART 2	15apr				1,67	7
12	23	Chapter **8. Tools for designing Integrated Circuits. Digital Part (I). Architecture.**		20apr	Lab	Practices preparation	1,67	7

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						DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h per week)
12	24	Chapter **8. Tools for designing Integrated Circuits. Digital Part I (II). Layout**	22 april		Lab	Practices preparation	2,5	
13	25	Chapter **8. Tools for designing Integrated Circuits. Analog Part**		27 april	Lab	Practices preparation	1,67	
13	26							7
14	27	Chapter **8. Tools for designing Integrated Circuits. Analog Part (I). Architecture.**		29 april	Lab	Practices preparation	2,5	
14	28	Chapter **8. Tools for designing Integrated Circuits. Complete simulation and project evaluation.**	4 may		Lab	Practices preparation	2,5	7
SUBTOTAL							**48,41 + 78=126,41**	
15								6
16-18		FINAL EXAM				Preparación del Examen final	3	15
SUBTOTAL							**3 + 21 = 24**	
TOTAL								**150,41**