



<b>DENOMINACIÓN ASIGNATURA:</b> Analog Electronics II (14042)		
<b>GRADO:</b> Grado en Ingeniería Electrónica Industrial y Automática	<b>CURSO:</b> 2019-2020	<b>CUATRIMESTRE:</b> 1

*There are 28 lectures along 14 weeks. Laboratories are remarked by blue, the color of the box if it is a session, the color of the text if the activity is related with it. Lab is developed around the Projects to be designed and implemented by the students. Projects score a 60% of the final mark. You will use every lab session to develop them.*

PLANIFICACIÓN SEMANAL DE LA ASIGNATURA									
SEMANA	SESIÓN	DESCRIPCIÓN DEL CONTENIDO DE LA SESIÓN	GRUPO (marcar X)		Indicar espacio distinto de aula (aula informática, audiovisual, etc.)	Indicar SI/NO es una sesión con 2 profesores	TRABAJO SEMANAL DEL ALUMNO		
			GRANDE	PEQUEÑO			DESCRIPCIÓN	HORAS PRESENCIALES	HORAS TRABAJO (Max. 7h semana)
1	1 5-sep	Introduction. Feedback configurations review		1.0.F.01		NO	Analog Electronics 1 review.	1,66	3
2	2 9-sep	A network with load effects. Frequency response.	1.1.F.03			NO	Problems resolution.	1,66	8
2	3 12-sep	Frequency response: Stability, concept and Nyquist plots.		1.0.F.01		NO	Stability concept work out. Nyquist plot review.	1,66	
3	4 16-sep	Stable and unstable systems	7.0.J.05		Aula Informática	NO	Working out the example before the lecture. <a href="#">Assignments of Projects to students.</a>	1,66	8
3	5 19-sep	Compensation: concept and methods.		1.0.F.01		NO	Analyzing compensation in electronics.	1,66	

4	6 Sep. 23 <sup>rd</sup>	Compensation: actual circuit applications. Examples of techniques	1.1.F.03			NO	Problems resolution.	1,66	
4	7 Sep. 26 <sup>th</sup>	Compensation problem.		7.0.J.05	<i>Computer lab</i>	NO	<i>Working out the example before the lecture.</i>	1,66	8
5	8 Sep. 30 <sup>th</sup>	Finishing compensation examples. FLIPPED CLASSROOM Oscillators: concept and Barkhausen criteria. Types.	1.1.F.03			NO	WATCHING THE VIDEOS Oscillator types: studying examples and solving problems.	1,66	8
5	9 Oct. 3 <sup>rd</sup>	Oscillator problems. Crystal oscillator.		1.0.F.01		NO	Oscillator types: studying examples and solving problems.	1,66	
6	10 Oct. 7 <sup>th</sup>	<a href="#">Students presentation of the selected Projects</a> More oscillator circuits	1.1.F.03			YES	<a href="#">Preparing the presentation.</a>	1,66	7
6	11 <b>Oct. 10<sup>th</sup></b>	<b>Partial examination: stability and compensation.</b>		1.0.F.01		NO	Problems resolution.	1,66	
7	12 Oct. 14 <sup>th</sup>	FLIPPED CLASSROOM Real effects of Op Amps. Comparators. Schmitt trigger and applications.	1.1.F.03			NO	WATCHING THE VIDEOS Problems resolution. Web search of datasheet examples. Studying references to get the idea. <a href="#">Project subsystem simulations.</a> <a href="#">Searching for the Project's electronic components</a>	1,66	8
7	13 Oct. 17 <sup>th</sup>	<i>Oscillator and opamp applications</i>		7.0.J.03	<i>Computer lab</i>	NO	<i>Working out the example before the lecture.</i>	1,66	
8	14 Oct. 21 <sup>th</sup>	Nonlinear oscillators. Timers.	1.0.F.03			NO	Problems resolution. <a href="#">Project subsystem simulations.</a>	1,66	6
8	15 Oct. 24 <sup>th</sup>	Subsystems setups (I)		1.1.I.09	Lab	YES	Subsystems set-up: starting	2,5	
9	16 Oct. 28 <sup>th</sup>	More problems on nonlinear amplifiers. PID control using opamps.	1.1.F.03			NO	Web search of other circuits, such as precision rectifiers, DDS, etc.	1,66	5
8	17 LAB Oct. 31 <sup>st</sup>	Subsystems setups (II)		1.1.I.09	Lab	YES	Subsystems set-up	2,5	
10	18 Nov. 4 <sup>th</sup>	Fully differential amplifiers. Active filters design overview.	1.1.F.03			NO	Studying the subject.	1,66	5
10	19			1.1.I.09	Lab	YES	Subsystems operation: first	2,5	

	LAB Nov. 7 <sup>th</sup>	Subsystems setups (III)					trials.			
11	20 Nov. 11 <sup>th</sup>	Specific purpose Integrated circuits. PLLs, DDS...	1.1.F.03				NO	Docs to be used	1,66	4
11	21 LAB Nov. 14 <sup>th</sup>	Subsystems setups (IV)		1.1.I.09	Lab		YES	Verifying operation.	2,5	
12	22 Nov. 18 <sup>th</sup>	Review problems (I): stability and compensation.	1.1.F.03				NO	Similar problems resolution	1,66	4
12	23 LAB Nov. 21 <sup>th</sup>	Assembling parts		1.1.I.09	Lab		YES	Assembling subsystems and detecting malfunctions.	2,5	
13	24 Nov. 25 <sup>th</sup>	Review problems (II): oscillators.	1.1.F.03				NO	Similar problems resolution	1,66	4
13	25 LAB Nov. 28 <sup>th</sup>	Projects tune-up		1.1.I.09	Lab		YES	Fixing errors, final tune-up	2,5	
14	26 Dec. 2 <sup>nd</sup>	Review problems (III): nonlinear amplifiers.	1.1.F.03					Similar problems resolution	1,66	5
15	27 To be determined (Dec. 10 <sup>th</sup> week)	Projects presentations.	1.1.F.03				YES		1,66	5,48
15	28 The same day	Second shift of Project presentations.	1.1.F.03				SI	Only if necessary		
<b>Subtotal 1</b>									<b>51,52</b>	<b>88,48</b>
<b>Total 1 (Face-to-face and distance working hours during weeks # 1-14)</b>									<b>140</b>	
15		Tutorials, submissions,etc.							15	
16		Examinations and their preparation							3	22
17										
18			X							
<b>Subtotal 2</b>									<b>3</b>	<b>37</b>
<b>Total 2 Face-to-face and distance working hours during weeks #15-18)</b>									<b>40</b>	
<b>TOTAL (Total 1 + Total 2. 180 hours max.)</b>									<b>180</b>	

