



**COURSE NAME:** Linear Algebra

**DEGREE:** Industrial Electronics and Automation

**COURSE:** 1

**TERM:** 1

*29 sessions (15 lectures, 14 seminars) in 14 weeks.*

**PLANIFICACIÓN SEMANAL DE LA ASIGNATURA**

WEEK	SESSION	DESCRIPTION	GROUPS		WEEKLY PROGRAMMING FOR STUDENT			
			LECTURE	SEMINAR	DESCRIPTION	LECTURE HOURS	STUDENT WORK (Max. 7h. per week)	
1	1	Presentation 0. Complex numbers	X				1,66	7
1	2	Selected exercises		X			1,66	
2	3	0. Complex numbers 1. Systems of linear equations	X				1,66	7
2	4	Selected exercises		X			1,66	
3	5	1. Systems of linear equations	X				1,66	7
3	6	Selected exercises		X			1,66	
4	7	1. Systems of linear equations 2.1 Matrix operations	X				1,66	7
4	8	Selected exercises		X			1,66	
5	9	2.2 The inverse of a matrix 2.3 Partitioned matrices	X				1,66	7
5	10	<b>Midterm exam 1: Sections 0 and 1</b> Selected exercises		X			1,66	

6	11	2.4 Determinants	X					1,66	7
6	12	Selected exercises		X				1,66	
7	13	3.1 Vector spaces and subspaces 3.2 Null and column spaces	X					1,66	7
7	14	Selected exercises		X				1,66	
8	15	3.3 Linearly independent sets and bases	X					1,66	7
8	16	Selected exercises		X				1,66	
9	17	3.4 Coordinate systems and dimension of a vector space	X					1,66	7
9	18	Selected exercises		X				1,66	
10	19	3.5 Linear transformations	X					1,66	7
10	20	Selected exercises		X				1,66	
11	21	4.1 Eigenvalues and eigenvectors 4.2 The characteristic equation	X					1,66	7
11	22	<b>Midterm exam 2: Sections 2 and 3</b> Selected exercises		X				1,66	
12	23	4.3 Diagonalization 5.1 Scalar product, norm and orthogonality	X					1,66	7
12	24	Selected exercises		X				1,66	
13	25	5.2 Orthogonal sets 5.3 Orthogonal projection	X					1,66	7
13	26	Selected exercises		X				1,66	
14	27	5.4 The Gram-Schmidt process 5.5 Least-squares problems	X					1,66	7
14	28	Selected exercises		X				1,66	
15	29	6. Hermitian matrices: Diagonalization Selected exercises	X					1,66	7
<b>Subtotal 1</b>								<b>46,66</b>	<b>98</b>
<b>Total 1 (Horas presenciales y de trabajo de alumno entre las semanas 1-14)</b>								<b>144,66</b>	

15-17		Extra sessions, tutorials, etc. Evaluation preparation						3,33	6
18		Final exam							
<b>Subtotal 2</b>								<b>3,33</b>	<b>12</b>

<b>Total 2</b> ( <i>Horas presenciales y de trabajo de alumno entre las semanas 15-18</i> )	
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<b>TOTAL</b> ( <i>Total 1 + Total 2</i> )	<b>160</b>
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