

COURSE: Machines Technology		
DEGREE: Industrial Technologies Engineering	YEAR: 3º	TERM: 2nd

WEEKLY PLANNING								
WEEK	SESSION	DESCRIPTION	TEACHING (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	WEEKLY PROGRAMMING FOR STUDENT		
			L E C T U R E S	S E M I N A R S		DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max.Estim. 6,5h)
1	1	Introduction. Strength of Materials	X			Remember and apply concepts of strength of materials	1,66	6,5
	2	Fatigue Theory I		X		Learn fatigue theories	1,66	
2	3	Fatigue Theory II	X			Apply fatigue theories	1,66	6,5
	4	Fatigue Exercises I		X		Do fatigue exercises	1,66	
3	5	Axle Theory	X			Particularization of fatigue theories for axles	1,66	6,5
	6	Fatigue Exercises II		X		Do fatigue exercises	1,66	
4	7	Gear Theory	X			Learn fundamental concepts of gears	1,66	6,5
	8	Axle and Fatigue III Exercises		X		Do fatigue and axles exercises	1,66	
5	9	Gear Failure Theory	X			Learn the main theories of the failure of gears	1,66	6,5
	10	Axle and gear Exercises		X		Do axle exercises	1,66	
6	11	Tribology	X			Fundamental concepts of tribology	1,66	6,5
	12	PRACTICE (Axle Fatigue Exercises)		X	Comp. Clas	Practice of calculating axle fatigue	1,66	
7	13	Lubrication Theory	X			Learn the main theories of lubrication	1,66	6,5
	14	Lubrication Exercises		X		Do lubrication exercises	1,66	

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8	15	Theory of rolling bearings I	X			Basic Rolling bearing concepts	1,66	6,5
	16	PRACTICE (Speed reducer assembly and disassembly)		X	1.1.N04	Speed reducer assembly and disassembly	1,66	
9	17	Theory of Rolling bearings II	X			Rolling Bearing life calculation	1,66	6,5
	18	Rolling bearing Exercises		X		Bearing life calculation exercises	1,66	
10	19	Belts	X			Fundamental concepts of belt drive and selection	1,66	6,5
	20	Belts Exercises		X		Do belts exercises	1,66	
11	21	Clutch Theory	X			Clutch parts, operation and design	1,66	6,5
	22	Clutch Exercises		X		Do clutch exercises	1,66	
12	23	Drum Brakes Theory	X			Drum brake parts, operation and design	1,66	6,5
	24	PRACTICE (Springs)		X	1.0.C03	Practice: Description of the fundamental concepts of springs and practical application	1,66	
13	25	Drum brakes Exercises	X			Do drum brakes exercises	1,66	6,5
	26	PRACTICE (Clutch and gearbox)		X	1.1.N04	Practice: Elements of a clutch and gearbox	1,66	
14	27	Disc brakes Theory	X			Disc brake parts, operation and design	1,66	6,5
	28	Disc brakes Exercises		X		Do disc brakes exercises	1,66	
	29	Additional session					1,66	3,25
Subtotal 1							48	94
Total 1 (Hours of class plus student homework)							142	
15		Tutorials, handing in, etc					3,6	-
16	17	Assessment					4	10
18								
Subtotal 2							8	10

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			L E C T U R E S	S E M I N A R S		DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max.Estim. 6,5h)
Total 2 (Hours of class plus student homework)						18		
TOTAL A (Maximun 160 horas)						160		

LABORATORIES CLASSES PROGRAMMING						
WEEK	SESSION	DESCRIPTION	LABORATORY	WEEKLY PROGRAMMING FOR STUDENT		
				DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. Estim. 6,5h)
4 y 10	1	Shaft fatigue: calculation of the diameter of an intermediate shaft of a gearbox	Computer class room	Practical calculations applying fatigue theory	1,66	6,5
	2	Bearings: Bearing calculation	Computer class room	Calculation and choice of bearings	1,66	
Subtotal 3					3,5	6,5
Total 3 (Hours of class plus student homework)						10
TOTAL B (Total 3)						10
TOTAL (Total A + Total B. Maximun 170 horas)						170

