Universidad Carlos III de Madrid
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COURSE: COMPUTER ORGANIZATION		
DEGREE: Grado en Ingeniería Informática	**YEAR: 2014/2015**	**TERM: 2º**

La asignatura tiene 29 sesiones que se distribuyen a lo largo de 14 semanas. Los laboratorios pueden situarse en cualquiera de ellas. Semanalmente el alumnos tendrá dos sesiones, excepto en un caso que serán tres

WEEKLY PLANNING

WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	Indicate YES/NO If the session needs 2 teachers	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	Introduction to parallelism	X			NO		1,66	
1	2	Case study and examples		X				1,66	
2	3	General organization of a computer	X			NO		1,66	
2	4	Case study and examples		X				1,66	
3	5	Conditions for parallelism and performances analysis. Dependencies analysis	X			NO		1,66	
3	6	Exercises of dependences analysis		X				1,66	
4	7	Parallelization levels and grain size. Characterization of the performance. Models of theoretical performance	X			NO		1,66	
4	8	Exercises of parallelization and performance calculation		X				1,66	

5	9	Fundamentals of segmentation. Basics concepts. Control structure of segmented functional units	X			NO		1,66	
5	10	Case study and examples		X				1,66	
6	11	Segmenteds processors. Basic stages of a segmented processor with static instruction planning.	X			NO		1,66	
6	12	Exercises of instructions execution in a segmented pipeline and optimization of execution		X				1,66	
7	13	Hazards and solutions. Multicycle execution	X			NO		1,66	
7	14	Exercises of instructions execution in a multicycle segmented pipeline.		X				1,66	
8	15	Dynamical planning of instructions execution: Scoreborad		X	Lab.			1,66	
8	16	Exercises of instructions execution in a Scoreboard planned segmented pipeline.		X				1,66	
9	17	Dynamical planning of instructions execution: Tomasulo	X			NO		1,66	
9	18	Exercises of instructions execution in a Tomasulo planned segmented pipeline.		X				1,66	
10	19	Dynamical branch prediction (I)		X	Lab.			1,66	
10	20	Exercises of instructions execution in a segmented pipeline with dynamical branch prediction.	X			NO		1,66	
11	21	Dynamical branch prediction (II)		X				1,66	
11	22	Case study and examples	X			NO		1,66	
12	23	Superscalar and supersegmented architectures		X				1,66	
12	24	Second class exam: thems 5 y 6		X				1,66	
13	25	VLIW and multicore architectures		X	Lab.			1,66	
13	26	Exercices of instructions execution in superscalar architectures	X			NO		1,66	
14	27								
14	28								
	29								
							Subtotal 1	**43,16**	
							Total 1 *(Hours of class plus student homework hours between weeks 1-14)*		

15		Tutorials, handing in, etc							

16		Assessment						3	
17									
18									
							Subtotal 2	**3**	

Total 2 *(Hours of class plus student homework hours between weeks 15-18)*	

TOTAL *(Total 1 + Total 2. Maximum 180 hours)*	

Laboratories

- S8/P1/ Introdution to WINDLX and toolbox use for hazard analysis.
- S9/P2/ Code reordering.
- S10/P3/ Loop unrolling
- S11/P4/ Software segmentation