Universidad Carlos III de Madrid
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COURSE: ADVANCE THEORY OF COMPUTACION		
DEGREE: Bachelor in Computer Science	**YEAR: 4**	**TERM: 2**

La asignatura tiene 25 sesiones que se distribuyen a lo largo de 14 semanas. En cuatro de ellas habrá dos profesores

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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	Presentation Algorithm and Computational Cost Computational Complexity	X			NO	Read Subject Guide Read Bibliography	1,6	
1	2	Algorithm and Computational Cost Computational Complexity Recursive Algorithms		X		NO	Study subject notions Read Bibliography	1,6	5
2	3	Algorithm and Computational Cost Computational Complexity Recursive Algorithms					Study subject notions Read Bibliography Study Exercises	1,6	
2	4	Practice(Computational Complexity of Algorithms) and Essays					Read Practice Guide Read List of Topics	1,6	5

3	5	Introduction to Computability Theory	X			NO	Study subject notions Read Bibliography	1,6	
3	6	Practice: Algorithms Complexity		X	Aula Informática	NO	Read Practice Guide. Work on the Practice	1,6	5
4	7	Problem: definition. Computational Complexity of Problems	X			NO	Study subject notions Read Bibliography	1,6	
4	8	Practice: Algorithms Complexity		X	Aula Informática	NO	Read Practice Guide. Work on the Practice	1,6	5
5	9	Turing Machines. Non Deterministic Turing Machine	X			NO	Study subject notions Read Bibliography	1,6	
5	10	Practice: Algorithms Complexity		X	Aula Informática	NO	Work on the Practice	1,6	5
6	11	Turing Machine. Decidability	X			NO	Study subject notions Read Bibliography	1,6	
6	12	**Continuous Assessment. Practice Due Date**		X	Aula Informática	NO	Work on the Practice	1,6	5
7	13	Problem Reduction	X			NO	Study subject notions Read Bibliography	1,6	
7	14	Classes of Problems (P, NP,NP-C, etc.)		X	Aula Informática	NO	Study subject notions Read Bibliography	1,6	5
8	15	Classes of Problems (NP-Hard, CoP, etc.)	X			NO	Study subject notions Read Bibliography	1,6	
8	16	Approximation Algorithms. Probabilistic algorithms. Meta heuristics		X		NO	Study subject notions Read Bibliography	1,6	5
9	17	Markov Complexity. TM: *Busy Beaver*	X		Aula Informática	NO	Study subject notions Read Bibliography	1,6	
9	18	Essay		X		NO	Work on the Essay	1,6	5
10	19	Models of Computation	X			NO	Study subject notions Read Bibliography	1,6	
10	20	Essay		X	Aula Informática	NO	Work on the Essay	1,6	5
11	21	Model of Computation	X			NO	Study subject notions Read Bibliography	1,6	
11	22	Essay		X	Aula Informática	NO	Work on the Essay	1,6	

12	23	Essay	X		Aula Informática	NO	Work on the Essay	1,6	
12	24	Essay		X	Aula Informática	NO	Work on the Essay	1,6	5
13	25	Review and Exam Exercises	X			NO		1,6	
13	26	**Continuous Assessment. Essay Due Date**	X		Aula Informática	NO	Work on the Essay	1,6	5
14	27	Essay Presentation	X			NO	Work on the Essay Presentations	1,6	
14	28	Essay Presentation	X			NO	Work on the Essay Presentations	1,6	5
	29			X	Aula Informática	NO		1,66	
							Subtotal 1	**48,33**	**70**
							Total 1 *(Hours of class plus student homework hours between weeks 1-14)*	120	

15		Tutorials, handing in, etc						10	
16		Assessment						3	10
17									
18									
							Subtotal 2	**3**	**20**
							Total 2 *(Hours of class plus student homework hours between weeks 15-18)*	23	

TOTAL *(Total 1 + Total 2)*	**143**