



<b>COURSE: COMPUTER ARCHITECTURE</b>		
<b>DEGREE: COMPUTER SCIENCE AND ENGINEERING</b>	<b>YEAR: 3</b>	<b>TERM: 1</b>

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 and fundamentals of computer design.	X			NO	Personal study and information search.	1,66	7
1	2	Architecture classification and performance evaluation.		X		NO	Personal study and information search.	1,66	
2	3	Performance and reliability.	X			NO	Personal study and information search.	1,66	7
2	4	Exercises on performance and reliability		X		NO	Problem solving.	1,66	
3	5	Exploitation of instruction level parallelism.	X			NO	Personal study and problem solving.	1,66	7

3	6	Exercises on instruction level parallelism.		X		NO	Problem solving. Publication of lab assignment 1.	1,66	
4	7	Limits of instruction level parallelism.	X			NO	Personal study and problem solving.	1,66	7
4	8	Exercises on advanced instruction level parallelism.		X		NO	Compilation, execution, and performance evaluation. Work on Lab assignment 1.	1,66	
5	9	Cache memory.	X			NO	Personal study and problem solving.	1,66	7
5	10	Lab: Instruction Level Parallelism		X	Computer room	YES	Lab 1	1,66	
6	11	Introduction to C++11/14	X			NO	Personal study. Program compilation and execution.	1,66	7
6	12	Concurrent programming model in C++11/14		X		NO	Personal study. Deadline for lab1 report.	1,66	
7	13	Introduction to parallel programming with OpenMP	X			NO	Parallel programming familiarization.	1,66	7
7	14	Programming assignment: Introduction to parallel programming with OpenMP		X	Computer room Yes	NO	Parallel programming familiarization. Compilation and execution	1,66	
8	15	Cache memory system optimization	X			NO	Personal study.	1,66	7
8	16	Cache memory exercises		X		NO	Personal study and problem solving.	1,66	
9	17	Virtual memory and virtual machines.	X			NO	Personal study and problem solving.	1,66	7
9	18	Exercises on memory hierarchy.		X		NO	Personal study and problem solving.	1,66	
10	19	Symmetric Shared Memory Architectures	X			NO	Personal study and problem solving.	1,66	7
10	20	Distributed shared memory architectures. Exercises on cache coherence		X		NO	Personal study and problem solving.	1,66	
11	21	Memory consistency models	X			NO	Personal study and problem solving.	1,66	7
11	22	Exercises on memory consistency		X		NO	Personal study and problem solving. OpenMP assignment delivery.	1,66	
12	23	Non sequential consistency and lock free programming in C++11/14	X			NO	Personal study and problem solving.	1,66	7

12	24	Lab: Lock free programming in C++11/14		X	Computer room	YES	Lab session. In class delivery.	1,66	
13	25	Synchronization in shared memory systems	X			NO	Personal study and problem solving.	1,66	7
13	26	Exercises on memory synchronization		X		NO	Problem solving.	1,66	
14	27	New trends	X			NO	Personal study and problem solving.	1,66	7
14	28	Preparation exercises for final exam.		X		NO	Preparation for final exam.	1,66	7
11	29	Lab: cache memory		X	Computer room	YES	Lab session. In class delivery	1,66	

**Subtotal 1**    **48,33**    **98**

<b>Total 1</b> ( <i>Hours of class plus student homework hours between weeks 1-14</i> )	<b>146,33</b>
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15		Tutorials, handing in, etc							10
16		Assessment							3
17								20	
18									

**Subtotal 2**    **3**    **20**

<b>Total 2</b> ( <i>Hours of class plus student homework hours between weeks 15-18</i> )	<b>33</b>
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<b>TOTAL</b> ( <i>Total 1 + Total 2. Maximum 180 hours</i> )	<b>179,33</b>
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