

15-418: Parallel Computer Architecture and Programming, Spring 2011 Schedule

Table 1: 15-418, Spring 2011. (Revised, 4/5/11)

Class	Date	Day	Topic	Reading	Assignments	
1	1/11	Tue	Why Study Parallel Architecture?	1.1		
2	1/12	Wed	Evolution of Parallel Architecture	1.2		
3	1/13	Thu	Fundamental Design Issues	1.3-4		
4	1/18	Tue	Parallel Programming: Overview I	2.1-2		
5	1/19	Wed	Parallel Programming: Overview II	2.3-4		
6	1/20	Thu	Parallel Programming: Performance I	3.1		
7	1/25	Tue	Parallel Programming: Performance II	3.2	L1 Out	
8	1/26	Wed	Parallel Programming: Performance III	3.3-4		
9	1/27	Thu	Par. Prog: Case Studies & Implications	3.5-6		
10	2/1	Tue	Workload-Driven Arch Evaluation I	4.1		
11	2/2	Wed	Workload-Driven Arch Evaluation II	4.2-3		
12	2/3	Thu	Shared Memory Multiprocessors I	5.1	L1 Due, L2 Out	
13	2/8	Tue	Shared Memory Multiprocessors II	5.3		
14	2/9	Wed	Shared Memory Multiprocessors III	5.4		
15	2/10	Thu	Directory-Based Cache Coherence I	8.1-5		
16	2/15	Tue	Directory-Based Cache Coherence II	8.6-7, 8.9-11		
17	2/16	Wed	Relaxed Memory Consistency Models	9.1		
18	2/17	Thu	Earthquake Simulation Case Study		L2 Due	
	2/22	Tue	Exam I		L3 Out	
19	2/23	Wed	Snoop-Based Multiprocessor Design I	6.1		
20	2/24	Thu	Snoop-Based Multiprocessor Design II	6.2		
21	3/1	Tue	Snoop-Based Multiprocessor Design III	6.3-4		
22	3/2	Wed	Snoop-Based Multiprocessor Design IV	6.5, 6.7		
23	3/3	Thu	Synchronization	5.5., 7.9, 8.8	L3 Due	
<i>Spring Break</i>						
	3/15	Tue	<i>No lecture: instead, please brainstorm about your Project Proposal.</i>			
	3/16	Wed	<i>No lecture: instead, please brainstorm about your Project Proposal.</i>			
	3/17	Thu	<i>Meetings to discuss Project Proposal ideas.</i>			
	3/18	Fri	<i>No lecture (of course), but project proposals are due by 3pm.</i>		Project Proposal	
24	3/22	Tue	Scalable Distributed Memory MPs I	7.1-3		
25	3/23	Wed	Scalable Distributed Memory MPs II	7.4-8		
26	3/24	Thu	Parallel Machines at the PSC (<i>Guest Lecturer</i>)			
27	3/29	Tue	Interconnection Network Design	10.1-10		
28	3/30	Wed	Latency Tolerance	11.1, 11.6, 11.7.5		
	3/31	Thu	<i>Meet regarding Milestone 1 Progress</i>		Project Milestone 1	
	4/7	Thu	Exam II			
	4/14	Thu	<i>Meet regarding Milestone 2 Progress</i>		Project Milestone 2	
	4/27	Wed				Project Report Due
	4/28	Thu	Project Poster Session			