

EE362 Syllabus

Revision 3

Spring 2009

Textbook Heuring, Vincent P. and Jordan, Harry F., *Computer systems design and architecture*, 2nd ed., Pearson Education, Inc., Upper Saddle River, New Jersey, 2004.

Session #	Date	Topic	Reading Assignment	Homework Due	Quizzes & Tests	Lab Due
1	Wednesday	7-Jan-09	Course Introduction & History of Computer Architecture			
2	Friday	9-Jan-09	Review of digital design	1, 2.6		
3	Monday	12-Jan-09	Overview of Modern Computer Architecture		1.1, 1.6, 1.8	
Lab	Tuesday	13-Jan-09	Lab 1: VHDL Revisited I			
4	Wednesday	14-Jan-09	Addition & subtraction with excess representation	6.1, 6.2		
5	Friday	16-Jan-09	Lookahead-carry			
6	Monday	19-Jan-09	Martin Luther King Holiday			
Lab	Tuesday	20-Jan-09	Lab 1: VHDL Revisited II			
7	Wednesday	21-Jan-09	Multiplication (Robertson's algorithm)		6.1, 6.3, 6.4	
8	Friday	23-Jan-09	Multiplication (Booth's algorithm, Radix 4)			
9	Monday	26-Jan-09	Computer Division (restoring, non-restoring)	6.3	6.8, 6.10, 6.12, 6.13	
Lab	Tuesday	27-Jan-09	Lab 2: Ripple-carry adder/subtractor in VHDL I			Lab 1
10	Wednesday	28-Jan-09	IEEE Floating Point representation	6.4		Quiz 1
11	Friday	30-Jan-09	IEEE Floating Point arithmetic hardware			
12	Monday	2-Feb-09	Other methods for computer arithmetic		6.28, 6.29	
Lab	Tuesday	3-Feb-09	Lab 2: Ripple-carry adder/subtractor in VHDL II			
13	Wednesday	4-Feb-09	Synchronization			Quiz 2
14	Friday	6-Feb-09	Processor design	2		
15	Monday	9-Feb-09	Processor design: SRC 1-bus I	4.1–4.6	6.31, 6.32	
Lab	Tuesday	10-Feb-09	Lab 2: Ripple-carry adder/subtractor in VHDL III			
16	Wednesday	11-Feb-09	Processor design: SRC 1-bus II			Test I
17	Friday	13-Feb-09	Processor design: SRC 1-bus III			
18	Monday	16-Feb-09	Presidents' Day Holiday			
Lab	Tuesday	17-Feb-09	Lab 3: SRC Partial Implementation I			Lab 2
19	Wednesday	18-Feb-09	Processor design: SRC 1-bus IV		2.3, 2.7, 2.11, 2.15, 2.21	
20	Friday	20-Feb-09	Processor design: SRC 1-bus V	4.7, 4.8		
21	Monday	23-Feb-09	Processor design: SRC 1-bus VI	5.1–5.3	4.2, 4.5	
Lab	Tuesday	24-Feb-09	Lab 3: SRC Partial Implementation II			
22	Wednesday	25-Feb-09	Processor design: SRC 2- and 3-bus			Quiz 3
23	Friday	27-Feb-09	Interrupts, traps, system calls	5.4		
24	Monday	2-Mar-09	Weather cancellation		4.8, 4.15, 4.18	
Lab	Tuesday	3-Mar-09	Lab 3: SRC Partial Implementation III			
25	Wednesday	4-Mar-09	Pipelining I			
26	Friday	6-Mar-09	Pipelining II			
27	Monday	9-Mar-09	Microprogramming I	7.1–7.3		
Lab	Tuesday	10-Mar-09	Lab 4: SRC Full Implementation I			
28	Wednesday	11-Mar-09	Microprogramming II			Quiz 4
29	Friday	13-Mar-09	Data and Control Dependencies			
Spring Break						
30	Monday	23-Mar-09	Software issues	7.4, 7.5		
Lab	Tuesday	24-Mar-09	Lab 4: SRC Full Implementation II			Lab 3
31	Wednesday	25-Mar-09	Memory: RAM, ROM, Flash, DRAM	7.6, 7.7	5.3, 5.15, 5.18	
32	Friday	27-Mar-09	Memory: Constructing larger memories			
33	Monday	30-Mar-09	Memory interleaving	8.5		
Lab	Tuesday	31-Mar-09	Lab 4: SRC Full Implementation III			
34	Wednesday	1-Apr-09	Memory: Associative Caches			Test II
35	Friday	3-Apr-09	Memory: Direct-mapped and Set-associative Caches			
36	Monday	6-Apr-09	Memory			
Lab	Tuesday	7-Apr-09	Lab 5: TBA I			
37	Wednesday	8-Apr-09	Memory: Error Correction I	8.1		
38	Friday	10-Apr-09	Memory: Error Correction II	8.2		
39	Monday	13-Apr-09	Cyclic Redundancy Checks (CRC)	8.3, 8.4		
Lab	Tuesday	14-Apr-09	Lab 5: TBA II			Lab 4
40	Wednesday	15-Apr-09	I/O Subsystems		7.14, 7.18, 7.19, 7.20, 7.21	
41	Friday	17-Apr-09	I/O Subsystems	9.1–9.3		
42	Monday	20-Apr-09	Programmed I/O	9.4–9.6		
Lab	Tuesday	21-Apr-09	Lab 5: TBA III			
43	Wednesday	22-Apr-09	Interrupt-driven I/O and Direct Memory Access (DMA)	10.1–10.3		Quiz 5
44	Friday	24-Apr-09	Peripheral devices: magnetic disk drives			
45	Monday	27-Apr-09	Peripheral devices: display devices	10.5	8.6, 8.9, 8.13, 8.19, 8.21	
Lab	Tuesday	28-Apr-09	Final Exam Review/Course Wrap Up, Ri 075 (not Ri 008)			7:45 AM 4/13/2009