



Course Weekly Outline

Course Instructor	Dr. Wissam Hasan Mahdi				
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Title	Digital Logic Design				
Course Coordinator					
Course Objective	<p>At the end of the course students should</p> <ul style="list-style-type: none"> - Be able to understand and apply Boolean logic and algebra – a core competence in Computer Science - Be able to analysis combinational and sequential circuit. - Be able to design and construct simple digital electronic systems. - Be able to recognize and understand the work of essential elements of computer such as register, counter and ram. 				
Course Description	<ul style="list-style-type: none"> - Number system - Boolean algebra and gates - Analysis of Combinational circuit - Design digital circuit - Sequential circuit (flip-flop) - Encoder, decode and multiplexer - Ram , counter, shift register 				
Textbook	Digital Fundamental, T. Floyd, 9 th ed., Pearson Education, Inc., 2006				
References	Digital Design and Computer Architecture, D. M. Harris and S. L. Harris, 'Morgan Kaufmann, 2007.				
Course Assessment	Term Tests	Laboratory	Quizzes	Project	Final Exam
	(30%)	(15%)	(5%)	----	(50%)
General Notes					



Course weekly Outline

week	Date	Topics Covered	Lab. Exp.	Notes
1	21-25 /9/2014			
2	28/9-2/10/2014			
3	5-9 /10/2014			
4	12-16 /10/2014			
5	19-23 /10/2014			
6	26-30 /10/2014			
7	2-6 /11/2014			
8	9-13 /11/2014			
9	16-20 /11/2014	Introduction: digital and analog system		
10	23-27 /11/2014	Number system: decimal ,binary, octal and hexadecimal number		
11	1-4 /12/2014	Conversion between number systems Decimal to binary, octal and hexadecimal conversions Binary to decimal, octal and hexadecimal conversions		
12	7-11 /12/2014	Octal to decimal, binary and hexadecimal conversions Hexadecimal to decimal, binary and octal conversions		
13	14-18 /12/2014	Digital system arithmetic: Addition, Subtraction, Multiplication		
14	21-25 /12/2014	1's and 2's complements of binary number, Subtraction with complement		
15	28-31 /12/2015	Binary coded: BCD, Gray, Excess +3 code		
16	4-8 /1/2015	Boolean algebra and Logic gates.		
17	15-19 /2/2015	Representation for logic: The SOP and the POS		
18	22-26 /2/2015	logic simplification		
19	1-5 /3/2015	Karnaugh map(three and four- variable k-map)		
20	8-12 /3/2015	Don't care K-map		
21	15-19 /3/2015	Design combinational circuit		
22	22-26 /3/2015	Half adder, Full adder.		
23	29-2 /4/2015	Half subtractor, Full subtractor		
24	5-9 /4/2015	Parallel adder subtractor circuit		
25	12-16 /4/2015	BCD to 7-Segment		
26	19-23 /4/2015	Convertor: Gray to BCD and vice versa		
27	26-30 /4/2015	Encoder and Decoder		
28	3-7 /5/2015	Multiplexer and De-multiplexer		
29	10-14 /5/2015	Sequential logic circuit: Flip-flop (SR,D, JK and T)		
30	17-21 /5/2015	Read only memory ROM		
31	24-28 /5/2015	Counters.		
32	31-4 /6/2015	Shift register: introduction, serial and parallel shift registers		

Instructor Signature:

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