

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Republic of Iraq  
The Ministry Of Higher  
Education  
& Scientific Research



**University:** Baghdad  
**College:** Science for women  
**Department:** computer science  
**Stage:** first stage  
**Lecturer name:** haider.M.abdulhadi  
**Qualification:** M.Sc. in Engineer  
**Place of work:** college of Science for women/ computer science

## Syllabus Form

Instructor Name	haider.M.abdulhadi				
E-mail	Haider.abdulhadi2@gmail.com				
Course Title	<b>Logic Design (1)</b>				
Course Coordinator					
Course Objectives	<b>Teach Students the basic principles of logic gates and logic operations, the design and implementation of different logic circuits.</b>				
Course Description	<b>Four main topics are presented, Numbering Systems and Codes, Coding, Boolean Algebra and Logic Gates, Minimization of Logic Expression.</b>				
Textbook	▪ Digital Design, Third Edition, by M. Morris Mano. Prentice-Hall, Inc. 2002				
References	1- <b>Logic Design ,Digital Principles and Application", Malvino, 2000</b> 2- <b>"Introduction to Logic Design" (2<sup>nd</sup> edition), Sajjan G. Shiva, 2007</b>				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	As(25%)	As(15%)	As(0%)	-	As(60%)
General Notes	Type here general notes regarding the course				

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### Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1		Numbering Systems	Introduction to MultiSim program	
2		Conversion between different numbering systems	Continue to MultiSim program	
3		Arithmetic operations between different numbering systems	Continue to MultiSim program	
4		r and (r-1) complement	Continue to MultiSim program	
5		BCD and Excess-3 code	r and (r-1) complement	
6		Parity code and ASCII code	Basic logic gates	
7		8421 and 84-2-1 code	Verifying truth table and Boolean function	
8		Logic gates	Design of logic circuits	
9		Truth tables and Boolean equations	Verification of Boolean algebra part1	
10		Boolean algebra	Verification of Boolean algebra	

			part2	
11		k-map	k-map	
12		2, 3, and 4 variables k-map	Function implementation using NAND and NOR gates only	
13		Boolean function simplification using k-map	Even and parity checker	
14		Don't care conditions and simple circuit design	Function implementation with don't care conditions	
15		Examination	Examination	

**Instructor Signature:**

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