DIGITAL LOGIC DESIGN1 COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and   demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

1. Teaching Institution	University of Baghdad/ College of Science for Women
2. University Department/Centre	Computer Science Department
3. Course title/code	Digital Logic Design 1/108 CLD1
4. Programme(s) to which it contributes	Computer Science
5. Modes of Attendance offered	Physical Attendance
6. Semester/Year	First Year/ First Semester

7. Number of hours tuition (total)	60 total (30 theoretical, 30 practical)
8. Date of production/revision of this specification	23/6/2016

9. Aims of the Course

This course aims to enable the student to learn basics of digital systems design: Numbering Systems, codes, and Conversion between different numbering systems, principles and laws of Boolean algebra, simplification logical functions using k-map.

10· Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding
  A1. Recognize the numbering systems (binary, decimal numbers, octal, and hexadecimal).

  A2 .Identify the codes.

  A3. Identify the methods of conversion between the number systems and the conversion between the codes.

  A4. Identified on the basics and rules of Boolean algebra.

  A5. Identify on the Karnaugh- map

B- Subject-specific skills

  B1. Knowledge of number systems and conversion between them.

B2.Knowledge of types of Codes and conversion between them.
B3. Knowledge the basics and the laws of Boolean algebra and using it to simplify logic circuits.

Teaching and Learning Methods
• Education: provide lectures and printed sources from the modern, diverse and rich sources including examples
• Education: Harnessing smart blackboard to the goal of teaching students and explain the steps the solution and extraction results
• Education: resolving some questions, with intent to contain mistakes and make the students extracted error
• Learning: asking questions and inquiries and making the student turn into a teaching explanation and solution on the blackboard at that point, brainstorming method
• Learning: questions directly and consequently all students to learn the extent of interaction and the rest to be paid attention to
• Learning: Each specific group and explain its interaction between students with questions and answers and provide an environment that enables the student to lecture management or debate

Assessment methods
• Quizzes (quiz) semi-weekly
• Reporting and in the form of aggregates by a report for each set and presented over students
• Questions sudden and overlapping put up with to explain Article
• laboratory tests on the computer and is written to enable the student to the

solution without a computer

• monthly and quarterly tests

C. Thinking Skills

C1-providing range solutions to the same problem and discussed both individually and determine the appropriate method of solution to the problem at hand with a stand on the disadvantages of the rest of the solutions

C2- put forward solutions contain inaccuracies and identifying these mistakes After discussion and processed

C3-oral exceptional questions that need exceptional answers where heavyweight grades are assigned and some tipoff grades also provides

C4- choose the most appropriate algorithm used to manipulate the image checking out the image descriptions

Teaching and Learning Methods

Discussions that arise during the time of lecture, and an attempt to involve the largest possible number of students in the conversations and discussion, and direct the discussions to be objectively purpose.

Assessment methods

• Oral evaluated by involving students in discussions

• Quizzes (quiz)

• laboratory tests on the computer and is written

• exams monthly and quarterly

D. General and Transferable Skills (other skills relevant to employability and personal development)

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D1- distribution of specific topics for each group of students to prepare research reports from the the World Wide Web, the sources or the library and drafted in accordance with the basis of the approved formulation research.

D2-giving leadership debate administration, however, the group discussion and enable them to drive and manage the dialogue

D3- alert on errors in the answers to the oral and discuss them to learn their mistake.

D4- alert on errors in the answers of students in the written exams to clarify to the student.

11. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
١	٢		Numbering Systems	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٢	٢		Conversion between different numbering systems	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٣	٢		Arithmetic operations between different numbering systems	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٤	٢		r and (r-1) complement	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٥	٢		BCD and Excess-3 code	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand

٦	٢		Parity code and ASCII code	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٧	٢		8421 and Gray code	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٨	٢		Logic gates	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
٩	٢		Truth tables and Boolean equations	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
١٠	٢		Boolean algebra	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
١١	٢		k-map	According to point 10 hereinabove and on	According to point 10 hereinabove and on demand

				demand	
١٢	٢		2, 3, and 4 variables k-map	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
١٣	٢		Boolean function simplification using k-map	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
١٤	٢		Don't care conditions and simple circuit design	According to point 10 hereinabove and on demand	According to point 10 hereinabove and on demand
١٥	٢		Examination		

12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	1-Digital Design, 4th Edition, by M. Morris Mano. Prentice-Hall, Inc. 2006 2-Logic Design ,Digital Principles and Application", Malvino, 2000 3-"Introduction to Logic Design" (2nd edition), Sajjan G. Shiva, 2007
Special requirements (include for example workshops, periodicals, IT software, websites)	NI Multisim software
Community-based facilities (include for example, guest Lectures , internship , field studies)	

13. Admissions	
Pre-requisites	
Minimum number of students	Subject to classroom size, 20 student as minimum
Maximum number of students	Subject to classroom size, maximum 30 students