University / Academy: Menoufiya University

College / Institute: Faculty of Electronic Engineering

Department: Computer Science and Engineering

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Course Specification

1- Course basic information :		
Course Code: CSE 061	**Course Title:** Computer Fundamentals	**Academic year:** 2011/2012 **Level (0) – Semester : 1**
University requirement	**Teaching hours: Lecture** 2 **Tutorial** 0 **Lab** 2	

2- Aim of the course	• Understand the principles of computer units, logic gates and log circuits. • Understand the methods of logic circuit reduction • Understand how to design a logic circuits
3- Intended Learning Outcomes:	
A- Knowledge and Understanding:	a2. Basics of information and communication technology (ICT). a4. Principles of design including elements design, process and/or a system related to specific computer science and engineering. a13. Engineering principles in the fields of logic design.
B- Intellectual Skills	b3. Think in a creative and innovative way in problem solving and design. b8. Select and appraise appropriate ICT tools to a variety of engineering problems.

C- Professional Skills	c1. Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems. c4. Practice the neatness and aesthetics in design and approach. c13. Design and operate computer-based systems specifically designed for business applications.
D- General Skills	d1. Collaborate effectively within multidisciplinary team. d4. Demonstrate efficient IT capabilities. d9. Refer to relevant literatures.
4- Course Contents	Number Systems: Binary, Octal, and Hexadecimal number systems – Computer Arithmetic - Logic gates - Basics of digital circuits and the simple combined logic elements - Boolean Algebra and Logic Simplification - Flip-Flops and Sequential logic Circuits – Registers and Counters.
5- Teaching and Learning Methods	- Lectures - Labs and/or case studies - Research assignments
6- Teaching and Learning Methods for disable students	- NA
7- Student Assessment	
a- Assessment Methods	- Weekly sheet exercises at class room - Quizzes - Labs and/or case study for more demonstration. - Mid term, and final exams
b- Assessment Schedule	- Exercise sheet/ Lab assignment : Weekly - Quizz-1: Week no 3 - Mid-Term exam: Week no 8 - Quizz-2: Week no 11 - Lab exam: Week no 15 - Final – term examination: Week no ---
c- Weighting of Assessment	- Class tutorial and quizzes: 5 % - Mid-term examination: 10 % - Case study and/or practical exam: 15 % - Final – term examination: 70 % - Other types of assessment: …… %

	Total 100 %
8- List of text books and references:	
a- Course notes	There are lectures notes prepared in the form of a book authorized by the department
b- Text books	[1] Thomas Floyd, " Digital fundamental" Prentice-Hall, Inc., 1997
c- Recommended books	**None**
d- Periodicals, Web sites ……etc	IEEE transactions on computers and software.

Course contents - ILOs Matrix

Content Topics	Week	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
Number Systems	1 - 2	a2, a4	b3, b8	c1	d1, d4
Computer Arithmetic	3	a13	b3, b8	c1, c4	d1, d4
Logic gates	4	a4, a13	b3, b8	c1, c4	d1, d4
Basics of digital circuits and the simple combined logic elements	5-6	a4, a13	b3, b8	c1, c4	d1, d4
Boolean Algebra	7	a4, a13	b3, b8	c1, c4	d1, d4, d9
Logic Simplification	9	a4, a13	b3, b8	c1, c4	d1, d4, d9
Flip-Flops	10-11	a4, a13	b3, b8	c1, c4, c13	d1, d4, d9
Sequential logic Circuits	13	a4, a13	b3, b8	c1, c4, c13	d1, d4, d9
Registers and Counters	13-14	a4, a13	b3, b8	c1, c4, c13	d1, d4, d9

Course coordinator: **Head of Department:**

Prof. Dr. Nawal El-Fishawy

Dr. Ahmed Shouman **Prof. Dr. Nawal El-Fishawy**

Date: / 09 / 2012