

University / Academy: Menoufia University

College / Institute: Faculty of Electronic Engineering

Department: Computer Science and Engineering

Course Specification

1- Course basic information:		
Course Code: CSE ٣٦6	Course Title: Experimental Lab	Academic year: 2011/2012 Level (3) – Semester : 2nd
Faculty requirement	Teaching hours: Lecture <input type="text" value="٢"/> Tutorial <input type="text" value="-"/> Lab <input type="text" value="٣"/>	

2- Aim of the course	<ul style="list-style-type: none">- Apply knowledge engineering concepts to the solution of engineering problems- Design a system; component and process to meet the required needs within realistic constraints- Design and conduct experiments as well as analyze and interpret data- Work effectively within multi-disciplinary teams- Engage in self- and life- long learning- Use current advanced techniques, skills, and tools necessary for computing practices to specify, design, and implement computer-based systems
3- Intended Learning Outcomes:	
A- Knowledge and Understanding:	<p>a1. Concepts and theories of sciences appropriate to the computer science and engineering</p> <p>a3. Characteristics of engineering materials related to the computer science and engineering</p> <p>a4. Principles of design including elements design, process and/or a system related to specific computer science and engineering</p> <p>a10. Technical language and report writing</p> <p>a13. Engineering principles in the fields of logic design, circuit analysis, machine and assembly languages, computer organization and architectures, and embedded systems</p>

<p>B- Intellectual Skills</p>	<p>b3. Think in a creative and innovative way in problem solving and design</p> <p>b6. Investigate the failure of components, systems, and processes</p> <p>b9. Judge engineering decisions considering balanced costs, benefits, safety, quality, reliability, and environmental impact</p> <p>b13. Develop innovative solutions for the practical industrial problems</p> <p>b15. Select, synthesize, and apply suitable IT tools to computer engineering problems</p> <p>b16. Proposing various computer-based solutions to business system problems</p> <p>b17. Cost-benefit analysis should be performed especially in sensitive domains where direct and indirect costs are involved</p>
<p>C- Professional Skills</p>	<p>c2. Professionally merge the engineering knowledge, understanding, and feedback to improve design, products and/or services</p> <p>c3. Create and/or re-design a process, component or system, and carry out specialized engineering designs</p> <p>c5. Use computational facilities and techniques, measuring instruments, workshops and laboratory equipment to design experiments, collect, analyze and interpret results</p> <p>c6. Use a wide range of analytical tools, techniques, equipment, and software packages pertaining to the discipline and develop required computer programs</p> <p>c10. Apply quality assurance procedures and follow codes and standards</p> <p>c11. Exchange knowledge and skills with engineering community and industry</p> <p>c12. Prepare and present technical reports</p> <p>c13. Design and operate computer-based systems specifically designed for business applications</p> <p>c14. Use appropriate specialized computer software, computational tools and design packages throughout the phases of the life cycle of system development</p>
<p>D- General Skills</p>	<p>d1. Collaborate effectively within multidisciplinary team</p> <p>d2. Work in stressful environment and within constraints</p>

	<p>d3. Communicate effectively</p> <p>d5. Lead and motivate individuals</p> <p>d6. Effectively manage tasks, time, and resources</p> <p>d7. Search for information and engage in life-long self learning computer science and engineering</p> <p>d9. Refer to relevant literatures</p>
4- Course Contents	Introduction and Code Structure - Data Types - Operators and Attributes - Concurrent Code Experiments - Sequential Code Experiments - Signals and Variables Experiments - State Machine Experiments
5- Teaching and Learning Methods	<ul style="list-style-type: none"> - Lectures - Tutorials - Labs and/or case studies - Research assignments
6- Teaching and Learning Methods for disable students	NA
7- Student Assessment	
a- Assessment Methods	<ul style="list-style-type: none"> - Weekly sheet exercises at class room - Quizzes - Labs and/or case study for more demonstration - Projects - Midterm, and final exams
b- Assessment Schedule	<ul style="list-style-type: none"> - Exercise sheet/ Lab assignment : Weekly - Quizz-1: Week <u>no</u> 5 - Mid-Term exam: Week <u>no</u> 8 - Quizz-2: Week <u>no</u> 11 - Lab exam: Week <u>no</u> 14 - Final – term examination: Week <u>no</u> 15
c- Weighting of Assessment	<ul style="list-style-type: none"> - Class tutorial and quizzes : ...5... % - Mid-term examination: ...15... % - Oral and practical exam: ...15... % - Final – term examination: ...60... % - Other types of assessment: ...5... % <p style="text-align: right;">Total <u>100</u> %</p>

8- List of text books and references:	
a- Course notes	None
b- Text book	Volnei A. Pedroni, Circuit Design with VHDL, Massachusetts Institute of Technology, 2004
c- Recommended books	Dr Peter R. Wilson, Design Recipes for FPGAs, Dr Peter R. Wilson, 2007
d- Periodicals, Web sitesetc	IEEE Computers, Magazine

Course Contents - ILOs Matrix

Content Topics	Week	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
Introduction and Code Structure	1	A1, A3	-	-	-
Data Types	2, 3	A1, A3	-	-	-
Operators and Attributes	4, 5	A1, A3	-	-	-
Concurrent Code Experiments	6, 7, 8	A10	B13, B16, B17	C5, C6	D1, D2, D6, D7, D8
Sequential Code Experiments	9, 10, 11	A10	-	C10, C11, C12, C13, C14	D1, D2, D5, D6, D8
Signals and Variables Experiments	12	A10	B13, B16, B17	C5, C6	D1, D2, D6, D7, D8
State Machine Experiments	13, 14	A10	-	C10, C11, C12, C13, C14	D1, D2, D5, D6, D8

Course coordinator:

Head of Department:

Dr. Eng. Zeiad El-Saghir

Prof. Nawal Ahmed El-Fishawy

Date: / /