

University / Academy: Menoufia University

College / Institute: Faculty of Electronic Engineering

Department: Computer Science and Engineering

Course Specification

1- Course basic information:		
Course Code: CSE 367	Course Title: Microprocessors & Their Applications	Academic year: 2011/2012 Level (3) – Semester : 2
Faculty requirement	Teaching hours: Lecture <input type="text" value="3"/> Tutorial <input type="text" value="1"/> Lab <input type="text" value="2"/>	

2- Aim of the course	<ul style="list-style-type: none">- To apply knowledge engineering concepts to the solution of engineering problems.- To design a system; component and process to meet the required needs within realistic constraints.- To design and conduct experiments as well as analyze and interpret data.- To work effectively within multi-disciplinary teams.- To engage in self- and life- long learning.- To 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, memory hierarchy, advanced computer architectures, embedded systems, signal processing, operating systems, real-time systems and reliability analysis.</p>
B- Intellectual Skills	<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>
C- Professional Skills	<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</p>

	<p>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>
D- General Skills	<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	<p>The microprocessor family- Microprocessor architecture memory stack, I/O, DMA - Processor control and monitoring(Interrupts, Resets, Status) - Hardware Reference information(CPU architecture MIN/MAX mode, EXTmemory addressing, I/O interfacing, microprocessor applications) – Microprocessor system design</p>
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 100 %</p>
8- List of text books and references:	
a- Course notes	None
b- Text book	M. Rafiquzzaman, Microprocessor Theory and Applications, John Wiley & Sons, Inc., 2008.
c- Recommended books	<ul style="list-style-type: none"> • Barry B. Brey, The Intel Microprocessors: 8086/8088, 80186/80188, 80286, 80386, 80486 Pentium, Pentium Pro Processor, Pentium II, Pentium 4, and Core2 with 64-bit Extensions, Architecture, Programming, and Interfacing, Eighth Edition, Pearson Education International, Upper Saddle River, New Jersey, 2009 • John Uffenbeck, The 80x86 Family: Design, Programming, and Interfacing, Third Edition, Prentice-Hall International, Inc., Upper Saddle River, New Jersey, 2002
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
The microprocessor family-	1	a1	-	-	-
Microprocessor architecture memory stack, I/O, DMA -	2, 3	a3	-	-	-
Processor control and monitoring(Interrupts, Resets, Status) -	4, 5	a4, a13	b3, b15	c6, c14	-
Hardware Reference information(CPU architecture MIN/MAX mode, EXTmemory addressing, I/O interfacing, microprocessor applications) –	6, 7, 8,9,10 ,11	a10	b3, b6, b9, b13, b15, b16, b17	c2, c3, c5, c6	d1, d2, d3, d6, d7, d8
Microprocessor system design	12, 13,14	-	-	c10, c11, c12, c13, c14	d1, d2, d3, d5, d6, d8

Course coordinator:

Dr. Eng. Zeiad El-Saghir

Head of Department:

Prof. Nawal Ahmed El-Fishawy

Date: / /