University/Academy: Arab Academy for Science and Technology & Maritime Transport
Faculty/Institute: College of Computing & Information Technology
Program: B. Sc. in Computer Science

Course title	Introduction to Computer Architecture
Course code	**CE243**

Form no. (11A)
Knowledge and skills matrix for a course

Course content	Week study	Knowledge	Intellectual skills	Professional skills	General skills
Introduction to Computer Systems Organization & Architecture	1	• Define essential facts, concepts, principles and theories relevant to comp. eng.	• Apply knowledge of computing, mathematics, physics and logical skills appropriate to the computer engineering discipline. • Apply the Object-Class-Constructor-Primitive data casting-Array	• Use laboratory and field equipment competently and safely. • Use laboratory and field equipment competently and safely.	• Show the use of information-retrieval.
Introduction to Computer Systems Organization & Architecture	2				
Digital Components	3	• Identify and use symbols for digital logic gates and blocks			

Course content	Weel study	Knowledge	Intellectual skills	Professional skills	General skills
Register Transfer Organization & Micro-operation	4	• 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, and signal processing.	• Apply the Access Modifiers		
Register Transfer Organization & Micro-operation	5	• Define engineering principles in the fields of operating systems, real-time systems and reliability analysis.	• Select and apply appropriate mathematical tools, computing and methods.		
Basic computer Organization and Design.	6		• Select and apply design techniques and tools in computer engineering disciplines		
Basic computer Organization and Design.	7				
Central Processing Unit	8	• Demonstrate inductive reasoning abilities, figuring general rules and conclusions about seemingly unrelated events.	• Competence in identifying the major issues in designing processors.		
Central Processing Unit	9	Understand clock speed, PC buses, and CPU components		• Solve computer engineering problems.	

Course content	Weel study	Knowledge	Intellectual skills	Professional skills	General skills
Central Processing Unit.	10	• Understand Quality assessment of computer systems.			
Memory Organization	11	• Show broad general education necessary to understand the impact of computer engineering solutions in a global and societal context.			
Memory Organization	12	• Differentiate between wide, interleaved and independent memory organization	• Evaluate different techniques and strategies for solving computer engineering problems.	• Write computer programs.	
Memory Organization	13	• Define principles of design specific to computer engineering.		• Use appropriate specialized computer software, computational tools and packages.	
Input-Output Organization	14	• Explain interfaces and ports			
Input-Output Organization	15				

Course Instructor

Name:

Signature:

Head of Department

Name: **Dr Samah Senbel**

Signature: