Republic of Iraq
The Ministry of Higher Education and Scintific Resrearch
Supervision and Scientific Evaluation Body

College : Shatt Al-Arab University College
Department :Computer Science
Stage: Third
Lecturer Name : Oday Jasim Mohammed Al-Furaiji
Academic Status : Ph.D

Course Weekly Outline

Course Lecturer	**Oday Jasim Mohammed Al-Furaiji**			
e-mail	**odaymohammed@mail.ru; odayalfuraiji@sa-uc.edu.iq**			
Title	**Computer Architecture**			
Course Coordinator				
Course Objective	**1. An introduction to the internal structure of the microprocessor and how it works, as well as to assembly language, where the instructions that the processor can implement, as well as an introduction to the structure of the computer and its basic parts and how it works** **2. Introduction to basic principles and computer architecture** **3. A study on computer architecture and its types** **4. Basic computer organization and design** **5. Pipelining**			
Course Description	**An introduction to the internal structure of the microprocessor and how it works, as well as to assembly language, where the instructions that the processor can implement, as well as an introduction to the structure of the computer and its basic parts and how it works**			
Textbook	1. "Fundamentals of computer organization and architecture", 2. M. M. Mano, "computer system architecture" third edition, prentice Hall, 1993. 3. Walter A. Triebel, "The 80386, 80486, and Pentium® Processors Hardware, Software, and Interfacing", 1998.			
References	4. David A. Patterson and John L. Hennessy, "Computer Organization and Design",1998. 5. Computer Architecture Introduction 6. http://www.freebookcentre.net/CompuScience/Free-Computer-Architecture-Books-Download.html			
Course Assessment	**Term Exam**	**Project**	**Quizzes and Attendance**	**Final Exam**
	30		**10**	**60**
General Notes				

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Qualification: Lecturer

Week	Date	Topics Covered	Number of Hours	Notes
1	09/10/2022	CPU organization	2	
2	16/10/2022	Types of Registers	2	
3	23/10/2022	Instruction Set Design	2	
4	30/10/2022	Addressing Modes	2	
5	06/11/2022	Instruction Types	2	
6	13/11/2022	Microprogramming	2	
7	20/11/2022	Design of CPU Control Unit	2	
8	27/11/2022	Control of CPU (Functional Requirements)	2	
9	04/12/2022	CU Design Methods	2	
10	11/12/2022	Hardwired Implementation	2	
11	18/12/2022	Microprogrammed Implementation	2	
12	25/12/2022	Advantages and Disadvantages of both implementations	2	
13	08/01/2023	Memory Management	2	
14	15/01/2023	Characteristics of Memory System	2	
15	22/01/2023	The Memory Hierarchy	2	
16	29/01/2023	Memory Interleaving	2	
17	05/02/2023	Cache Memory	2	
18	12/02/2023	Mapping Process	2	
19	19/02/2023	Microcomputer Memory	2	
20	26/02/2023	Memory Connection to Microprocessor	2	
21	05/03/2023	Pipeline and Vector processing	2	
22	12/03/2023	Single-Cycle versus Pipelined Performance	2	
23	19/03/2023	Practice Examples	2	
24	26/03/2023	Instruction Pipeline Design	2	
25	02/04/2023	Instruction Execution Phases	2	
26	09/04/2023	Practice Examples	2	
27	16/04/2023	Multiprocessors	2	
28	23/04/2023	Cache Coherence and Synchronization Mechanisms	2	
29	30/04/2023	Dataflow Architectures	2	
30	07/05/2023	Partitioning Strategies	2	

Lecturer signature **Head of Department Signature**