Syrian Arab Republic		الجمهورية العربية السورية
Ministry of Higher Education		وزارة التعليـم العالـــــي
Syrian Virtual University		الجامعة الافتراضية السورية

Course Definition:

1- Basic Information:

Course Name	Introduction to Computer Architecture
Course ID	ICA
Contact Hours (Registered Sessions)	–
Contact Hours (Synchronized Sessions)	12 sessions
Mid Term Exam	-
Exam	
Registered Sessions Work Load	-
Synchronized Session Work Load	2 hours for each session
Credit Hours	3 hours

2- Pre-Requisites:

Course	ID
Digital systems	DG

3- Course General Objectives:

This course is intended to familiarize the students with the design principles and implementation issues of contemporary computer architecture.

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4- Intended Learning Outcomes (ILO):

Code	Intended Learning Outcomes
ILO1	Overview of computer architecture
ILO2	Computer evolution and performance
ILO3	Computer components
ILO4	Understanding computer memory, types and operations
ILO5	Understanding computer input/output
ILO6	Understanding computer control unit
ILO7	.computer arithmetic ....

5- Course Syllabus (18 hours of total synchronized sessions)

- **RS:** Recorded Sessions**; SS:** Synchronized Sessions**;**

ILO	Course Syllabus	RS	SS	Type	Additional Notes
ILO1	• Basic Concepts and Computer Evolution		4.5	assignments	Exercises
ILO2	• A Top-Level View of Computer Function and Interconnection		1.5	assignments	Exercises
ILO3	• A Top-Level View of Computer Function and Interconnection		1.5	assignments	Exercises
ILO4	• Internal memory, cache memory		4.5	assignments	Exercises

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ILO5	• Input and output	1.5	assignments	Exercises
ILO6	• Control unit operations	1.5	assignments	Exercises
ILO7	• Number system, computer arithmetic	3	assignments	Exercises

6- Assessment Criteria (Related to ILOs)

ISC	Interactive Synchronized Collaboration		Ex	Exams		Rpt	Reports
PF2F	Presentations and Face-to-Face Assessments		PW	Practice Work			

ILO Code	ILO	Intended Results	Assessment Type				
			ISC	PW	Ex	PF2F	Rpt
ILO1	Overview of computer architecture	The evolution of the Intel x86 architecture Cloud computing Embedded systems ARM architecture	✓	✓	✓		✓
ILO2	Computer evolution and performance	Computer function Interconnection structures	✓	✓	✓		✓
ILO3	Computer components	Computer components Bus interconnection Point-to-point interconnect PCI express	✓	✓	✓		✓
ILO4	Understanding computer memory, types and operations	Internal memory Cache memory	✓	✓	✓		✓
ILO5	Understanding computer input/output	IO modules DMA operations	✓	✓	✓		✓

ILO6	Understanding computer control unit	Micro-operations, Interrupt	✓	✓	✓			✓
ILO7	computer arithmetic	The number systems (decimal, hexadecimal, binary) Integer operations Floating point operations	✓	✓	✓			✓

7- Practice Tools:

Tool Name	Description

8- Main References

William Stallings, "Computer Organization and Architecture 10th Edition, 2016

9- Additional References

David Patterson & John Hennessy, "Computer organization and design", 4th edition, 2012