TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the program specification.

1. Teaching Institution	Al-Nahrain University/ College of Science
2. University Department/Centre	Computer Science Department
3. Course title/code	Computer Architecture
4. Programme(s) to which it contributes	B.Sc. in Computer Science
5. Modes of Attendance offered	Full Time
6. Semester/Year	First Semester/ Third Year
7. Number of hours tuition (total)	45 Theory
8. Date of production/revision of this specification	2022-2023
9. Aims of the Course	
- Give a complete knowledge about how to represents data inside the computer system, floating point representation, and error detection method. - How the data transfer between the processor's registers and main memory and how to implement the arithmetic and logic micro-operations. - How to design and organization a basic computer, micro-programmed control, central processing unit, I/O organization, pipeline and vector processing, and multiprocessors.	

10· Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding

A1. Complete knowledge about how to represents data in the computer system and how to represent the floating point numbers.

A2. Complete knowledge about the transfer of data between the registers inside the processor and the other parts of the computer.

A3. Enough understanding about how to design a basic computer with limited resources.

A4. Enough understanding of how the control implemented in the computer system.

A5. Studying the architecture of the central processing unit, I/O organization, and the multiprocessing techniques, and the multiprocessors.

B. Subject-specific skills

B1. Gain a deep and clear view of how the complete instruction cycle is executed.

B2. Gain an acceptable experience about the parallel processing and its methods and how it effects on the processing speed which will be the main goal in computer design.

B3.

Teaching and Learning Methods

Lectures, problem classes, laboratory work.

Assessment methods

Exam, Test, laboratory assignments.

C. Thinking Skills

C1. Asking: Seeking new information

C2. Deduce and Conclude.

C3. Compare.

C4. Classify

Teaching and Learning Methods

Lectures, problem classes

Assessment methods

Exam, Test

D. General and Transferable Skills (other skills relevant to employability and

personal development)
D1. Have the ability to deal with any real life problems relevant to computer work or file storing by using the text based operating system.
D2. Have the ability to collect a computer system with any specifications provide by the customer.
D3.
D4.

11. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3 theory		Data Representation	Formal Lectures	-
2	=		Register Transfer and Microoperations	=	Quiz
3,4	=		Basic Computer Organization and Design	=	Quiz
5,6	=		Micro-programmed Control	=	Quiz
7	=		Mid-Course Exam 1		
8,9	=		Central Processing Unit	=	-
10	=		Input-Output Organization	=	Quiz
11,12	=		Pipeline and Vector Processing	=	Quiz
13,14	=		Multiprocessors	=	Quiz
15	=		Mid-Course Exam 2		

12. Infrastructure

Required reading: · CORE TEXTS · COURSE MATERIALS · OTHER	**Computer System Architecture, 3rd edition, by M. Morris Mano**
Special requirements (include for example workshops, periodicals, IT software, websites)	
Community-based facilities (include for example, guest Lectures , internship , field studies)	