Course Description Sample

Subject: Computer organization

This course description provides a brief survey of the most important characteristics, expected learning output, showing whether students have made full use f the learning opportunities. These characteristics have to be matched with the description of the program.

1. Educational Institution	Shatt Al-Arab University College
2. Department / Center	Computer Technology Engineering
3. Course Title /Code	FUND 9107/ Computer organization
4. Lecturer Name	Salah Mortada
5. Type of Teaching	Electronic
6. Academic Year /Term	Midterm
7. Total No. of Teaching Hours	120 hours / every week 4 hours
8. Date f Preparing this Course Description	11/7/2022

9. **Course Objectives**

a. Understand the basic components of a computer.
b. Identify the components and the difference between previous generations.
c. Knowledge and understanding of microprocessors.
d. Knowledge and understanding of the architecture and architecture of microprocessors.
e. Know the systems and how they work.
f. Knowledge of peripheral devices, their capabilities, and their operation.

10. **Course Output, Methodology and Evaluation**

   (A) **Cognitive Objectives**

a. Knowledge of computer basics and accessories.
b. Knowing the evolution of computer generations.
c. Understand the basic principles of each component of computer-ready.
d. Enabling students to sharpen their skills in the dynamic work environment.
e. Knowing the system in which the computer works, its processor and architecture.
f. Knowing the protocols used in the computer and how they work between operating systems.

   (B) **Skill Objectives Related to the Program**:

a. Learn the structure and definition of computer parts and their purpose.
b. Learn the programs used in his specialty with the secondary programs used.
c. Practical application to the most common programs.

Methods of Teaching and Learning

a. Explanation and clarification through periodic study lectures.
b. Training the student in giving a lecture or participating in an external topic that contributes to adding new topics.
c. Discussions about a specific application used in its specialty.
d. Intellectual extracurricular duties and preparing the student to think and think.

Methods of Evaluation

a. Semester exams and periodic process.
b. Quizzes
c. Other extra-curricular exams
d. Students' Regular Attendance

(C) **Sentimental and Value Objectives**

a. Enhancing thinking and increasing the student's sense of the importance of team and individual engineering work.
b. Presenting ideas and solutions in a civilized engineering form through theory and proof.
c. Urging students to participate in the completion of reports that increase the student's love for his specialization.
d. Active participation individually in a team and an indication of its importance in contributing and adding.

Methods of Teaching and Learning

a. Theoretical presentation of the curriculum vocabulary and its importance and use, with realistic examples.
b. Theoretical application in the laboratory with full explanation step by step.
c. Group discussions and theoretical presentation in front of students to raise awareness and train students for leadership.
d. Completing a periodic practical and theoretical report regarding part of the computer parts, their installation and definition in different operating systems.

Methods of Evaluation

a. Tests of all kinds, daily and periodic and quarterly theoretical exams.
b. The duties assigned to the student.
c. Reports.

D) **General and Qualitative Skills (other skills related to the ability of employment and personal development)**

a. Skills of how to build his ideas geometrically and scientifically.
b. Analysis and proof skills in proving the idea.
c. Using modern technology to search for, prove and support the idea through modern sources.

11. Course Structure

Week	No of Hours	Required Learning Output	Title of Subject	Teaching Method	Evaluation
1	2	Computer organization	Introduction to computer systems, Main parts of computer system, Organization and architecture.	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
2	2	Computer organization	Von Neumann architecture	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
3,4	2	Computer organization	Introduction to the main digital component (registers, buffers, decoder, encoders, multiplexer ….)	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
5,6,7,8,9	2	Computer organization	Memory hierarchy (internal registers, primary memory, secondary memory, cache memory …)	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
10	2	Computer organization	System buses	Theoretical lectures + practical + assignments and	Qualification test + class assignment

				intellectual exams	
11	2	Computer organization	Memory addressing, Memory organization and expansion	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
12,13,14	2	Computer organization	CPU basic Organization: Arithmetic & logical unit organization (parallel adder cct., subtraction cct., increment & decrement cct., logical cct.)	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
15,16	2	Computer organization	CPU basic organization : Control unit organization	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
17	2	Computer organization	Input & Output organization (peripherals devices , isolated and memory mapped I /O , data transfer	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
18,19	2	Computer organization	Computer S /W (machine language , assembly language , OS , …)	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment

20	2	Computer organization	Basic concept Idea of microprocessor	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
21	2	Computer organization	Introduction to 8085 UP architecture	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
22	2	Computer organization	8085 Pin configuration	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
23,24	2	Computer organization	8085 addressing mode & instruction set	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
25,26	2	Computer organization	Instruction set group for 8085 , data transfer group , Arithmetic and logic group Branch group instructions for 8085 Stack memory and subroutine	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment
27,28	2	Computer organization	8085 Assembly Programming I	Theoretical lectures +	Qualification test + class

				practical + assignments and intellectual exams	assignment
29,30	2	Computer organization	8085 Assembly Programming II	Theoretical lectures + practical + assignments and intellectual exams	Qualification test + class assignment

12. **Infrastructure**

a. Textbooks	Computer Organization and Design: The Hardware/Software Interface Second Edition Computer Organization and Architecture 10th Edition
b. References	Computer organization: 5th (fifth) edition by Carl Hamacher, Zvonko G. Vranesic. Computer organization and architecture: design for performance (8th edition) by William stalling.
c. Recommended books and periodicals (journals, reports, etc.)	International Journal of Computer & Organization Trends
d. Electronic references, internet websites, etc	Computer Organization and Architecture Tutorial (https://www.javatpoint.com/computer-organization-and-architecture-tutorial)

13. **The Plan of Improving the Course**

Motivating students to use modern means and the Internet for the purpose of developing their skills in the field of modern computer design.