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| Lab. | Th. | units | First Semester2017 - 2018 | Duration | University of MustansiriyahDepartment of Computer ScienceStage : 2nd classInstructor : Dr. Narjis Mezaal Shati + Dr. Alaa Abdulhussein Altaay |
| 2 | 3 | 4 | 15 weeks |
| **Computer Organization**  | **Class name** |

**Prerequisite Course (s):** knowledge about computer and it's parts**.**

**Points distributions:** 40% (26% theoretical (2 exams, assignments), 14% practical (2 exams)), 60% final exams.

**Course description:** This course includes knowledge about stages of computer development, parts of computer (hardware), data representation.

**Aims:** explain the computer parts (hardware)

**Objective(s):** At the end of the course, students are expected to learn:

* History and computer classification,
* Van Newman computer
* Parts of computer (hardware)
* Storage unite ( internal and external)
* Data representation

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| **Week** | **Description** |
| **Theoretical** | **practical** |
| Week 1 | **Introduction to computer system*** Hardware
* Software
* Users
* Data
 |  |
| Week 2 | **History of computer and computer classification*** History Of Computer (first, second , third, fourth and fifth generation)
* Computer Classifications (process data, purpose and size).
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| Week 3 |  **Van Newman computer architecture** * CPU
* Input
* Output
* Working storage
* Permanent storage
 |  |
| Week 4 | **Data Representation (bit , byte)*** numbers
* Characters
* Integer ( signed , 1's complement and 2's complement)
 |  |
| Week 5 | **Data representation*** fixed-point
* floating-point
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| Week 6 | First test |  |
| Week 7 | **Input device*** Card Reader
* Scanner
* Light Pen
* Microphone
* Keyboard
* Mouse
* Joystick
* Digital Camera
* Touch Screen
 |  |
| Week 8 | **Output device*** Printer
* Monitor
* Speaker
 |  |
| Week 9 | **External storage*** Sequential Access Media
* Random Access Media
 |  |
| Week 10 | **Primary storage*** RAM
* ROM
 |  |
| Week 11 | Cache memory and Registers* Type of Cache memory
* Type of Registers
 |  |
| Week 12 | **Central Processing Unit CPU*** CPU operations
* The part of CPU
 |  |
| Week 13 | Second test |  |
| Week 14 | **Busses**  |  |
| Week 15 | **Networks and Data Communications**  |  |

**Textbook(s):**

1. Using Information Technology ( A practical Introduction to computers & communication )

 (2011 by The McGraw-Hill Companies, Inc.)

**Other References:**

1. The essential guide to IC3 ( 2006 CCI Learning Solutions Inc. )
2. Fundamentals of Computer Organization and Architecture. (2005 by John Wiley & Sons, Inc.)
3. Computing Fundamentals ( Fifth Edition ) ( 2003 by peter Norton )