**CPS 320- COMPUTER ORGANIZATION AND ARCHITECTURE**

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| **Pre Requisites** | 1. Computer Programming 2. DLD | **Course Code** | CPS 320 |
| **Credits** | 3+1 | **Contacts** | 3+3 |
| **Instructor** | Umar Mahmud | **Email** | umar\_mahmudATmcsDOTeduDOTpk |
| **Course Duration** | 06 Feb 12 – 8 Jun 12 | | |
| **Schedule and RV** | |  |  |  | | --- | --- | --- | | BESE 16 A | Thursday: 1320-1515 hrs | RV: CR 30 | | Friday: 0800-0850 hrs | RV: CR 30 | | Office Hours: Friday 1420: 1515 | | | BESE 16 B | Monday: 0800-0850 hrs | RV: CR 35 | | Tuesday: 0800-0950 hrs | RV: CR 35 | | Office Hours: Friday 0800-0945 | | | | |
| **Marks Distribution**  **(Theory)** | 10% assignments, 10% Quizzes, 30% Mid-term exam, 50% Final exam | | |
| **Programming Language** | Assembly language, C | | |
| **Programming Tools** | Debug  MASM  EMU 8086 | | |
| **References** | *Computer organization and Architecture* by William Stallings 6th Ed 2007  <http://williamstallings.com/COA6e.html> | | |
| *Computer Organization & Design* : *The Hardware/Software Interface* By Patterson & Hennessy, Morgan & Kauffman Series (2008) | | |
| Irvine, *Assembly Language for Intel-based Computers*, 5th ed, Prentice Hall, 2007. | | |

**OBJECTIVES OF THE COURSE**

1. To develop an understanding of a basic computer with emphasis on architecture and organization.
2. To provide an experience of working with low level languages.

**COURSE CONTENTS**

* Computer Architecture
  + System Buses
  + Memory
  + Processor
  + I/O
  + Advanced Topics
* Computer Organization
  + Assembly Language Programming
  + Instruction Sets