Universiti Malaysia PAHANG
Engineering • Technology • Creativity

BCN1043

COMPUTER ARCHITECTURE & ORGANIZATION

By
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Faculty of Computer Systems & Software Engineering

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Course Introduction

Course synopsis

- This course discusses the component, structure and function of a computer.
- It expose student with the architecture and organization of a computer.
- This subject covers on the numbering system, representation of data, internal and external computer communication through system buses and Input and Output, computer storage, internal architecture of Central Processing Unit, Logic gates and Boolean Algebra.
- Assembly languages are exposed to students for better understanding of the computer structure and component as a whole.

Course Outcomes

CO1	Classify and illustrate the internal and external components of a computer structure and its functionality which include CPU, buses, memory and I/O. Explain how the components of a computer architecture and organization contribute to the computer performance
CO2	Display and calculate the different machine data level representation, arithmetic and write a assembly language code to show computer inner working behavior
CO3	Demonstrate team working element by solving problems of computer architecture and organization in a groups

Books for Reference

- William Stallings. 2015. Computer Organization and Architecture – Designing for Performance, 10th Edition, Prentice Hall.
- Andrew S. Tanenbaum. 2012. Structured Computer Organization. 6th Edition.
- David A. Patterson and John L. Hennessy. 2013. Computer Organization and Design. Morgan Kaufmann; 5th edition.
- John. L. Hennessy and David. A. Patterson. 2012. Computer Architecture: A Quantitative Approach. Elsevier.
- David Money Harris, Sarah L. Harris. 2012. Digital Design and Computer Architecture. Elsevier.

ALL THE BEST!!!