Course Syllabus

FACULTY	**Faculty of Applied Science and Arts**
DEPARTMENT	**Applied Computing**
INSTRUCTOR	**En. Lazar Sharafi**
CONTACT INFORMATION	**Lazar.sharafi@ptuk.edu.ps**
COURSE NAME	**Computer Architecture (15041234)**

Course Description

MODULE	**Compulsory**
PREREQUISITES	**None**
COURSE CONTENT	Computer Architecture is about the really low-level details of how computers work inside, such as instruction sets, memory, and so on. Therefore, it is to discuss the basic structure of a digital computer and to study in detail the organization of the Control unit, the Arithmetic and Logical unit, the Memory unit and the I/O unit.
COURSE OBJECTIVES	◆ Obtain basic knowledge of basic computer organization and design; computer evolution and performance. ◆ Have good understanding of the Central Processing Unit: Data Representation, Fixed Point Numbers, and Computer Arithmetic. ◆ Obtain knowledge of Memory Hierarchy Design: Memory Technology – RAM, ROM; Memory Systems; Cache Memory Design; Virtual Memory. Examples: Pentium and Power PC - ◆ Cache Organization, Memory Management; RAID: Redundant Arrays of Inexpensive Disks. ◆ Obtain knowledge of Input and Output Organization: External Devices; I/O Modules; I/O Communication Methods: Programmed I/O, Interrupt-Driven I/O, and DMA: Direct Memory Access.
TEXTBOOK	**Computer Organization and Architecture, 9/E, William Stallings**

Assessment Criteria

First Exam	**Activity, scientific research, participation, short exams, etc.**	**Final Exam**
35%	**15%**	**45%**
		Total 100%

Course Schedule

Week	Chapter	Topic
1 + 2	1 + 2	• Introduction • Computer Evolution and Performance
	3 + 4	• A Top-level View of Computer Function and Interconnection • Cache Memory
3	First Exam	
3 + 4	5 + 6 + 7	• Internal Memory • External Memory • Input / Output
5	7 + 8	• Operating System Support
6+7	9 + 10	• Number Systems • Computer Arithmetic
	Final Exam	

Signature,

En. Lazar Sharafi