APPROVED

CSYS C7Z19: Computer Hardware

Module Details

Module Code:	CSYS C7Z19
Full Title:	Computer Hardware APPROVED
Valid From::	Semester 1 - 2019/20 (June 2019)
Language of Instruction:	English
Duration:	1 Semester
Credits::	5
Module Owner::	Andrew Wright
Departments:	Unknown
Module Description:	Students completing this module will be able to explain how modern digital devices work and describe how their components interact with each other.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	**Module Learning Outcome Description**
MLO1	describe the basic architecture of digital devices.
MLO2	explain how the CPU, memory, and data storage devices function and interact with each other.
MLO3	describe how input/output devices communicate with digital devices.
MLO4	write simple assembler programs.

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named DkIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).*
No recommendations listed

Module Indicative Content
Introduction History of computing, terminology, software/hardware layering.
Introduction to digital electronics Logic gates, truth tables, simple circuit design, example circuits (adders, flip-flops etc.)
CPU Types, fetch-execute cycle, adders, assembler code, registers.
Memories Types (SRAM, DRAM, ROM & Flash), main, cache, addressing, two's complement numbers, endian.
Storage History, hard drives, solid state drives, removable storage.
Data transfer System bus, interfaces, interrupts.
Input/Output devices Keyboard, mouse, touch screens, scanners, monitors, speakers, printers.

Module Assessment

Assessment Breakdown	%
Course Work	50.00%
Final Examination	50.00%

Module Special Regulation

Assessments

Full Time On Campus

Course Work			
Assessment Type	Continuous Assessment	**% of Total Mark**	50
Marks Out Of	0	**Pass Mark**	0
Timing	Every Week	**Learning Outcome**	1,2,3,4
Duration in minutes	0		
Assessment Description Write up of weekly practicals and tutorials.			

No Project

No Practical

Final Examination			
Assessment Type	Formal Exam	**% of Total Mark**	50
Marks Out Of	0	**Pass Mark**	0
Timing	End-of-Semester	**Learning Outcome**	1,2,3,4
Duration in minutes	120		
Assessment Description Formal written exam			

Part Time On Campus

Course Work			
Assessment Type	Continuous Assessment	**% of Total Mark**	50
Marks Out Of	0	**Pass Mark**	0
Timing	Every Week	**Learning Outcome**	1,2,3,4
Duration in minutes	0		
Assessment Description Write up of weekly practicals and tutorials.			

No Project

No Practical

Final Examination			
Assessment Type	Formal Exam	**% of Total Mark**	50
Marks Out Of	0	**Pass Mark**	0
Timing	End-of-Semester	**Learning Outcome**	1,2,3,4
Duration in minutes	120		
Assessment Description End of semester final exam.			

Reassessment Requirement
A repeat examination *Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.*
Reassessment Description A repeat examination and a project.

Module Workload

Workload: Full Time On Campus					
Workload Type	*Contact Type*	*Workload Description*	*Frequency*	*Average Weekly Learner Workload*	*Hours*
Lecture	Contact	Two one hour lectures on hardware topics per week.	Every Week	1.00	1
Practical	Contact	Hardware lab.	Every Week	2.00	2
Tutorial	Contact	Class tutorial.	Every Week	1.00	1
Independent Study	Non Contact	No Description	Every Week	2.00	2
Directed Reading	Non Contact	No Description	Every Week	2.00	2
				Total Weekly Learner Workload	8.00
				Total Weekly Contact Hours	4.00

Workload: Part Time On Campus					
Workload Type	*Contact Type*	*Workload Description*	*Frequency*	*Average Weekly Learner Workload*	*Hours*
Practical	Contact	Hardware lab.	Every Week	3.00	3
Directed Reading	Non Contact	No Description	Every Week	3.00	3
Independent Study	Non Contact	No Description	Every Week	2.00	2
				Total Weekly Learner Workload	8.00
				Total Weekly Contact Hours	3.00

Module Resources

Recommended Book Resources

William Stallings. (2018), Computer Organization and architecture, 11th. Pearson, [ISBN: 0134997190].

Ron White. (2015), How computers work, 10. Pearson Education, US, [ISBN: 078974984X].

This module does not have any article/paper resources

Other Resources

Website, HowStuffWorks. HowStuffWorks - Hardware.