

朝陽科技大學 093學年度第1學期教學大綱  
Computer Architecture 計算機結構

當期課號	7245	Course Number	7245
授課教師	陳青文	Instructor	CHEN,CHING WEN
中文課名	計算機結構	Course Name	Computer Architecture
開課單位	資訊工程系碩士班一A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	<p>本課程探討計算機系統之基本設計原理並進一步探討設計高效能計算機系統所使用的技術及原理。課程內容包括：Stored program computer設計範例，指令集設計，算術邏輯運算單元設計，硬線及微程式控制單元設計，管線設計，管線障礙及解決方法，RISC及CISC結構之特色及差異，向量處理機，階層式記憶及快取記憶設計，關聯記憶設計，計算機算術演算法，I/O介面，磁碟陣列，多元處理機，快取記憶資料一致性問題及MESI snoopy協定。</p>	Objectives	<p>This course provides an introduction both to the basics of computer architecture and the fundamental design concepts of high-performance computer systems. Topics covered include: design of stored program computers, instruction sets, design of arithmetic and logic units, hardwired control design and microprogrammed design, pipelined computer design, pipeline conflicts, RISC and CISC architectures, vector processing, memory organization, cache mapping, associative memory, computer arithmetic, interfacing input/output units with processors, RAID, multiprocessors ,cache coherence problem and MESI snoopy protocol .</p>
教材	Computer Architecture -- A Quantitative Approach 2nd   John L. Hennessy & David A. Patterson	Teaching Materials	
成績評量方式	30% 期中考 30% 期末考 30% 作業 10% 平常	Grading	
教師網頁	-		
教學內容	<p>這門課程主要介紹計算機結構的設計與觀念，主要的課程內容與範圍包括，計算機效能，指令集，管線化，進階管線化的研究，記憶體的分層，I/O設計等。讓修課的同學可以瞭解到計算機的設計，與設計計算機考量的地方。</p>	Syllabus	<p>The purpose of the course is to introduce the concepts. In this course we will cover the following topics: the role of performance, instruction sets, processor and pipelining, memory hierarchies, and input/output architectures.</p>

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