國立台灣科技大學 114學年 第2學期　課程大綱

Spring 2026 NTUST Course Outline

授課教師：劉一宇

Instructor:Yi-Yu Liu

課程名稱：計算機組織

Course Title：Computer Organization

2026/11/3

課程代號： CS2006301 Course Code 學分數： 3 Credits	必選修：必修/半學年 Required/Electve:Required/Half Yr. 先修課程： Prerequisites
節次教室： Time/Location	T3(TR-313) T4(TR-313) W2(TR-409-2)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	[中文] 讓學生了解計算機組織的重要理論與設計考量，除了介紹軟、硬體之間的關係外，也討論目前常用的CPU架構。 [英文] This course is intended to expose students to the important principles of computer organization. The emphasis is to show the interaction between hardware and software at a variety of levels, and to focus on the concepts that are basis for current computers.
課程大綱： Outline of Lectures	01. Introduction 02. Performance 03. Instruction set architecture 04. Computer arithmetic 05. Single cycle processor design 06. Multiple cycle processor design 07. Pipeline processor design 08. Memory system
授課方式： Method of Instruction	講授 Lecture：90% 分組討論 Group discussion：0% 案例研討 Case study：0% 操做練習 Practical exercises：10% 講授 Lecture：%
教科書： Textbooks	Computer Organization and Design: The Hardware/Software Interface (6th MIPS edition)
參考書目： References	Computer Organization and Design: The Hardware/Software Interface (RISC-V edition)
修課須知： Notice	
評量方式： Grading	Project/Homework Assignment: 50% (40%-50%) Quizzes: 0% (0%-10%) Midterm Exam: 25% (20%-30%) Final Exam: 25% (20%-30%)

備註說明： 建議先修課程：數位系統設計、程式設計
Notes