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：鮑興國

Instructor:Hsing-Kuo Pao

課程名稱：演算法

Course Title：Algorithms

2026/11/3

課程代號： CS3001301 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	T2(TR-312) W3(TR-312) W4(TR-312)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	https://moodle2.ntust.edu.tw(https://ctld.webex.com/meet/pao)
課程宗旨： Course Objectives	We introduce the basic and advanced algorithms knowledge and demonstrate how they can be applied to real-world applications. We continue the discussion on data structures course and move on to discuss more advanced topics. In particular, we shall spend more time to the discussion of the algorithms' correctness and time complexity analysis.
課程大綱： Outline of Lectures	I. Introduction to algorithms and analysis of algorithms II. Advanced data structures III. Basic and advanced algorithms: basic and advanced sorting algorithms. IV. Advanced design and analysis techniques: greedy algorithms, divide and conquer, dynamic programming, etc. V. Graph algorithms: elementary graph algorithms, minimum spanning tree, maximum flow.
授課方式： Method of Instruction	講授 Lecture：85% 分組討論 Group discussion：0% 案例研討 Case study：0% 操做練習 Practical exercises：15% 講授 Lecture：%
教科書： Textbooks	Introduction to Algorithms (4th Edition) by T.H.Cormen, C.E.Leiserson, R.L.Rivest, C.Stein, MIT Press (2022)(開發)
參考書目： References	none
修課須知： Notice	
評量方式： Grading	Midterm 35%, Final 35% Homework 30%
備註說明： Notes	Data structures, some experience in high-level programming languages (e.g., C/C++, Java).