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：楊傳凱

Instructor:Yang, chuan-kai

課程名稱：演算法

Course Title：Algorithms

2026/11/3

課程代號： MI3103701 Course Code 學分數： 3 Credits	必選修：選修/半學年 Required/Electve:Elective/Half Yr. 先修課程： Prerequisites
節次教室： Time/Location	W2(E2-102) W3(E2-102) W4(E2-102)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	訓練學生瞭解電腦演算法之理論基礎，俾能設計出正確、更有效率的電腦程式。本課程介紹一些較常用到的演算法及其分析方法，具體內容請詳見課程大綱。
課程大綱： Outline of Lectures	Chapter1 The role of algorithm in Computing Chapter2 Getting started Chapter3 Growth of functions Chapter4 Recurrence Chapter6 Heapsort Chapter7 Quicksort Chapter8 Sorting in linear time Chapter9 Medians and order statistics Chapter10 Elementary data structures Chapter11 Hash tables Chapter12 Binary search trees Chapter15 Dynamic programming Chapter16 Greedy algorithms Chapter17 Amortized analysis Chapter22 Elementary graph algorithms Chapter23 Minimum spanning trees Chapter24 Single-source shortest paths Chapter25 All-pairs shortest paths Chapter26 Maximum flow Chapter34 NP-Completeness Chapter35 Approximation algorithms AppendixA Summations
授課方式： Method of Instruction	講授 Lecture：0% 分組討論 Group discussion：0% 案例研討 Case study：0% 操做練習 Practical exercises：0% 講授 Lecture：%
教科書： Textbooks	Introduction to Algorithms, by Thomas Corman, Charles Leiserson, Ronald Rivest, and Clifford Stein, Third Edition

參考書目： References	
修課須知： Notice	
評量方式： Grading	Grading (raw score) Homework1: 10% Homework2: 10% Homework3: 10% Exam1: 20% Exam2: 20% Final Exam 30%
備註說明： Notes	1.Cheating is strictly prohibited. If you get caught once, your grade for that homework or examination is set to zero; if you get caught twice, your final grade for this semester is set to zero. 2.If your exam score is forty points less than your previous homework score, your homework score will be reduced to the exam score 3.Once the solutions to the homework are announced, any late homework will not be accepted. 4.If you have any questions/comments regarding this course, please email