

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：賴坤財

Instructor:Lay, Kuen-Tsair

課程名稱：編碼理論

Course Title : Coding Theory

2026/5/6

課程代號： ET5002701 Course Code	必選修：選修/半學年 Required/Elective: Elective/Half Yr.
學分數： 3 Credits	先修課程： Prerequisites
節次教室： W6(IB-510-1) W7(IB-510-1) W8(IB-510-1) Time/Location	
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： This course address the theory and practice of error control coding techniques, which is an essential component in digital communication systems. Course Objectives	
課程大綱： Course outline: Outline of Lectures	
<ol style="list-style-type: none"> 1. Information Measures 2. Channel Capacity and Coding 3. Abstract Algebra for Coding 4. Linear Block Codes 5. Cyclic Codes 6. Convolutional Codes 7. Turbo Codes 8. Low-Density Parity-Check Codes 9. Polar Codes 	
授課方式： 講授 Lecture：90% Method of Instruction	
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： No textbook is assigned. Instead, course handout will be given. Textbooks	
參考書目： No reference book is assigned. Handouts are given, if necessary, instead. References	
修課須知： Some lecture videos are available as assisting learning materials for the students. Notice	
評量方式： Grading: Grading	
<ol style="list-style-type: none"> 1. Homework: 20% 2. Midterm exam: 40% 3. Final exam: 40% 	
備註說明： Background knowledge required: linear algebra, probability Notes	