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

2026/11/3

課程代號： ET5002701 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	W6(IB-510-1) W7(IB-510-1) W8(IB-510-1)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	This course address the theory and practice of error control coding techniques, which is an essential component in digital communication systems.
課程大綱： Outline of Lectures	Course outline: 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： 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	No textbook is assigned. Instead, course handout will be given.
參考書目： References	No reference book is assigned. Handouts are given, if necessary, instead.
修課須知： Notice	Some lecture videos are available as assisting learning materials for the students.
評量方式： Grading	Grading: 1. Homework: 20% 2. Midterm exam: 40% 3. Final exam: 40%
備註說明： Notes	Background knowledge required: linear algebra, probability