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：鄭瑞光

Instructor:Ray-Guang Cheng

課程名稱：線性系統

Course Title：Linear System

2026/11/3

課程代號： ET3105301 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	M7(IB-401) M8(IB-401) W3(IB-503)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	https://hackmd.io/H3vjSaKpRqWAj65T9Y5-Eg?view
課程宗旨： Course Objectives	信號與系統、線性時恒系統、連續／離散傅氏轉換、拉氏轉換應用、Z-轉換應用、取樣、濾波與調變 1. Definition of signal and system 2. Linear Time-invariant System 3. Discrete/Continuous-time Fourier Transform
課程大綱： Outline of Lectures	(1) Introduction (2) Linear Time-Invariant Systems (3) Fourier Series (FS)/Discrete-time Fourier Series (DTFS)/Fourier Transform (FT)/Discrete-time Fourier Transform (DTFT) (4) Laplace Transform/Z Transform
授課方式： Method of Instruction	講授 Lecture：90% 分組討論 Group discussion：10% 案例研討 Case study：0% 操做練習 Practical exercises：0% 講授 Lecture：%
教科書： Textbooks	Signals and Systems, 2nd Ed., by Simon Haykin and Barry Van Veen, John Wiley & Sons Inc.
參考書目： References	Signals and Systems, 2nd Ed., by Alan V. Oppenheim and Alan S. Willsky, Prentice Hall
修課須知： Notice	With TA.
評量方式： Grading	1. Midterm: 40% 2. Final : 45% 3. H/W : 15%, 1pt/week, 15 weeks a. Baseline: 60%, 9pt (0.6 pt/week * 15 weeks= 9 pt) - 6 assignments/week, 0.1 pt/assignment - 1 Comments/Suggestions (submit in google form) - 5 problems chosen by yourself b. Extra Bounces: 40%, 6 pt - 3 pt: evaluated before the midterm - 3 pt: evaluated before the final exam.

備註說明： Notes	◎ 考試作弊，學期成績一率0分 Cheating on the exam will result in a final grade of zero for the course ◎ 修課背景：等差級數，等比級數，三角函數，微積分 Course Background: Arithmetic Sequences, Geometric Sequences, Trigonometric Functions, Calculus