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：黃騰毅

Instructor:Teng-Yi Huang

課程名稱：信號與系統

Course Title：Signals and Systems

2026/11/3

課程代號： EE3603301 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	F4(IB-510-1) M6(IB-510-1) M7(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 covers the mathematical and state-space analysis of analog and digital systems, including Fourier analysis, filtering, modulation, sampling, and feedback systems. It provides students—particularly electrical engineering majors—with a foundational understanding of continuous- and discrete-time signals and systems, beginning with the underlying mathematical principles.
課程大綱： Outline of Lectures	Week Course Content 1 Introduction 2 Lecture and Problems: Fundamentals of Complex Exponentials and Sinusoids (Ch. 1) 3 Lecture and Problems: Fundamentals of Fourier Series (Ch. 2) 4 Lecture and Problems: Fourier Series — Spectrum and Synthesis; Exercises (Ch. 2) 5 Lecture and Problems: Sampling and Reconstruction of Signals (Ch. 3) 6 Lecture and Problems: FIR Filters and Linear Time-Invariant Systems (Ch. 4) 7 Lecture and Problems: Frequency Response of FIR Filters; Midterm Review (Ch. 5) 8 Midterm 9 Lecture and Problems: The Z-Transform (Ch. 6) 10 Lecture and Problems: Z-Transform and System Analysis; Exercises (Ch. 6) 11 Lecture and Problems: Continuous-Time Signals and Systems (Ch. 7) 12 Lecture and Problems: Frequency Response of LTI Systems (Ch. 8) 13 Lecture and Problems: Fundamentals and Applications of the Fourier Transform (Ch. 9) 14 Lecture and Problems: Applications of the Fourier Transform — Modulation, Sampling, and Reconstruction (Ch. 10) 15 Lecture and Problems: Comprehensive Exercises and Final Review 16 Final
授課方式： Method of Instruction	講授 Lecture：70% 分組討論 Group discussion：0% 案例研討 Case study：0% 操做練習 Practical exercises：30% 講授 Lecture：%

教科書： Textbooks	N/A
參考書目： References	DSP First (2nd Edition)
修課須知： Notice	
評量方式： Grading	Grading Criteria: Assignments: 15%, Midterm and Final Exams: 85%
備註說明： Notes	N/A