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：郭景明

Instructor:Jing-Ming Guo

課程名稱：信號與系統

Course Title：Signals and Systems

2026/6/22

課程代號： EE3603302 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： F4(IB-503) M6(EE-407) M7(EE-407) Time/Location	
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 essential principles of signal processing, beginning with the properties of linear time-invariant systems. A strong emphasis is placed on Fourier analysis to establish a logical framework for selecting the appropriate analytical tool for any given signal. The curriculum explores the distinctions between continuous and discrete domains, as well as periodic and aperiodic behaviors. Specifically, it covers the representation of periodic signals using Fourier Series, alongside the application of Continuous-Time and Discrete-Time Fourier Transforms for aperiodic signals. Furthermore, the course examines the Sampling Theorem, highlighting the vital mathematical link between continuous physical signals and digital processing systems. Ultimately, this curriculum provides the theoretical tools necessary to understand and manipulate complex system behaviors.
課程大綱： Outline of Lectures	Chap 1 Signals and Systems # Chap 2 Linear Time-invariant Systems # Chap 3 Fourier Series Representation of Periodic Signals # Chap 4 The Continuous-Time Fourier Transform # Chap 5 The Discrete-Time Fourier Transform # Chap 6 Time/ Frequency Characterization of Signals/ Systems Chap 7 Sampling & Sampling Theorem # Chap 8 Communication Systems Chap 9 Laplace Transform Chap 10 Z-Transform Chap 11 Linear Feedback Systems
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	
參考書目： References	Title: Signals & Systems Authors: Alan V. Oppenheim and Alan S. Willsky

修課須知： Notice	
評量方式： Grading	Attendance and Participation: 10% Weekly quizzes: 90%
備註說明： Notes	