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：林長華

Instructor:Lin, Chang-Hua

課程名稱：電子電路

Course Title：Electronic Circuits

2026/11/3

課程代號： EE2218302 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	R4(IB-502) T6(IB-502) T7(IB-502)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	Upon completing this course, the student should be able to ... 1. Understand the operation principles and analysis of the building circuit blocks for integrated amplifiers. 2. Understand the features of differential amplifiers and know how to analyze the mismatches as well as the common-mode and differential gains. 3. Understand and analyze the frequency responses of an amplifier circuit. 4. Understand and know how to analyze a feedback system.
課程大綱： Outline of Lectures	1. Current Source and Current Mirrors, The Basic Gain Cell 2. The Common-Gate and Common-Base Amplifiers as Current Buffers, The Cascode Amplifier 3. The IC Source Follower, Current-Mirror Circuits with Improved Performance, Quiz 1 4. The MOS Differential Pair, The BJT Differential Pair 5. Common-Mode Rejection, DC Offset 6. The Differential Amplifier with a Current Mirror Load 7. Multistage Amplifiers 8. The Midterm Exam 9. The General Feedback Structure, Some Properties of Negative Feedback 10. The Feedback Voltage Amplifier 11. Systematic Analysis of Feedback Voltage Amplifiers 12. Other Feedback Amplifier Types, Quiz 2 13. Low-Frequency Response of CS Amplifiers, Low-Frequency Response of CE Amplifiers 14. High-Frequency MOSFET Models, High-Frequency BJT Models 15. High-Frequency Response of CS Amplifiers, High-Frequency Response of CE Amplifiers 16. The Final exam
授課方式： Method of Instruction	講授 Lecture：100% 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	Microelectronic circuits
參考書目： References	N/A
修課須知： Notice	Chinese-language course videos covering the corresponding chapters are available on YouTube for reference. Three or more recorded absences may affect the final grade.
評量方式： Grading	Quiz 1 accounts for 20% of the final grade, the midterm exam accounts for 30%, Quiz 2 accounts for 20%, and the final exam accounts for 30%. The semester grade is calculated by adding the weighted scores of these four components.
備註說明： Notes	Students are expected to have a basic foundation in mathematics, electrical engineering, and physics, as well as basic English communication skills.