

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：黃顥融

Instructor: Yi Long Huang

課程名稱：電力電子學

Course Title : Power Electronics

2026/5/6

課程代號： EE3203701 Course Code 學分數： 3 Credits	必選修：選修/半學年 Required/Elective: Elective/Half Yr. 先修課程： Prerequisites
節次教室： M6(IB-305) M7(IB-305) W2(IB-305) Time/Location	
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	1. Steady-State Analysis of Switching Power Converter (Buck, SIMPLIS Tool) 2. Review of Linear Control and Bode Plot 3. Small Signal Modeling: Average Method Three-Terminal Circuit 4. Compensator Design (Voltage Mode), Voltage-Loop Stability 5. Magnetic Law, Magnetic Components 6. Isolated Converter: Flyback, Converter, Forward Converter
課程大綱： Outline of Lectures	1. Steady-State Analysis of Switching Power Converter (Buck, SIMPLIS Tool) 2. Review of Linear Control and Bode Plot 3. Small Signal Modeling: Average Method Three-Terminal Circuit 4. Compensator Design (Voltage Mode), Voltage-Loop Stability 5. Magnetic Law, Magnetic Components 6. Isolated Converter: Flyback, Converter, Forward Converter
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	
修課須知： Notice	
評量方式： Grading	
備註說明： Notes	