

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：陳亮光

Instructor:Liang-Kuang Che

課程名稱：應用電子學

Course Title : Applied Electronics

2026/5/5

<p>課程代號： TE2105301 Course Code</p> <p>學分數： 3 Credits</p>	<p>必選修：必修/半學年 Required/Elective:Required/Half Yr.</p> <p>先修課程： Prerequisites</p>
<p>節次教室： F8(TR-413-2) R3(TR-413-2) R4(TR-413-2) Time/Location</p>	
<p>專業核心能力： 運用數學、科學及工程知識的能力 Core Professional Competencies</p>	
<p>課程網址： Course Website</p>	
<p>課程宗旨： The objective of this course is to train students with fundamental knowledge of electrical engineering, including circuit theory and techniques, digital electronics and digital systems, and electronic devices. This is considered the entry-level course for non-electrical engineering background students to gain the basis of the electrical engineering fields. The contents start from the fundamental knowledge of physics and mathematics, and dive into the technical specialty of the relevant fields. Course Objectives</p>	
<p>課程大綱： 1. Circuits: KCL, KVL, Mesh and Loop analyses, Thevenin, and Norton, source transformation, superposition (CH1-2) Outline of Lectures 2. Inductance and capacitance (CH3), and AC CKT analysis (CH5), MT1 (about 5 weeks) (we skip both the response chapters) 3. Digital electronics (Ch7-8, selected topics) (2-3 weeks) 4. Semiconductor and diode (CH9) (about 1-2 weeks) 5. Amplifiers (CH10) (1 weeks), MT2 6. Transistor: BJT, JFET, and MOSFET (CH11-12, and maybe contents from other books) (3-4 weeks) 7. Operational amplifier (Op-Amp) (CH13) (about 1-2 weeks)</p>	
<p>授課方式： 講授 Lecture : 100% Method of Instruction 分組討論 Group discussion : 0% 案例研討 Case study : 0% 操做練習 Practical exercises : 0% 講授 Lecture : %</p>	
<p>教科書： Electrical Engineering: Principles &amp; Applications, Global 7th Edition, Textbooks by: Allan R. Hambley, published: 23rd April 2018, ISBN: 9781292223124, Number of Pages: 896.</p>	
<p>參考書目： 1. B. Razavi, Fundamentals of Microelectronics References 2. R. J. Smith and R. C. Dorf, Circuits, Devices and Systems: A First Course In Electrical Engineering 3. Boylestad and Nashelsky, Electronic Devices and Circuit Theory 4. Electronic Principles, 7th ed., by Albert Malvino and David Bates 5. D. A. Neamen, Microelectronics: Circuit Analysis and Design</p>	

修課須知：  
Notice

評量方式： 10% attendance and exercise, 30% Midterm 1, 30% Midterm 2, 30% Final  
Grading exam

備註說明： Physics, calculus, linear algebra  
Notes