# 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：魏榮宗

Instructor:Jung-Tzung Wei

課程名稱：電路學(二)

Course Title：Basic Circuit Theory (2)

2026/5/6

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| 課程代號： ET2104301<br>Course Code<br>學分數： 3<br>Credits | 必選修：必修/半學年<br>Required/Electve:Required/Half Yr.<br>先修課程：<br>Prerequisites |
| 節次教室：<br>Time/Location | R6(IB-401) R7(IB-401) T2(IB-401) |
| 專業核心能力：<br>Core Professional Competencies | |
| 課程網址：<br>Course Website | |
| 課程宗旨：<br>Course Objectives | 本課程基於電路學(一)基礎教導進階電路分析及元件，包含回顧穩態功率分析、磁耦合電路、三相電路、拉普拉斯轉換、應用拉普拉斯轉換於電路分析、頻率響應、複利葉級數、雙埠網路及二極體<br>This course is based on the information of Basic Circuit Theory (1) to teach advanced circuit analysis and components. It contains the following contents:<br>1.Review of Steady-State Power Analysis<br>2.Magnetically Coupled Networks<br>3.Three-phase Circuits<br>4.Laplace Transform<br>5.Application of the Laplace Transform to Circuit Analysis<br>6.Variable-Frequency Network Performance<br>7.Fourier Analysis Techniques<br>8.Two-Port Networks<br>9.Diodes |
| 課程大綱：<br>Outline of Lectures | 回顧穩態功率分析、磁耦合電路、三相電路、拉普拉斯轉換、應用拉普拉斯轉換於電路分析、頻率響應、複利葉級數、雙埠網路及二極體<br>1.Review of Steady-State Power Analysis<br>2.Magnetically Coupled Networks<br>3.Three-phase Circuits<br>4.Laplace Transform<br>5.Application of the Laplace Transform to Circuit Analysis<br>6.Variable-Frequency Network Performance<br>7.Fourier Analysis Techniques<br>8.Two-Port Networks<br>9.Diodes |
| 授課方式：<br>Method of Instruction | 講授 Lecture：100%<br>分組討論 Group discussion：0%<br>案例研討 Case study：0%<br>操做練習 Practical exercises：0%<br>講授 Lecture：% |
| 教科書：<br>Textbooks | Engineering Circuit Analysis (12e), J. David Irwin/R. Mark Nelms, 滄海書局代理 |
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| 參考書目：<br>References | N/A |
| 修課須知：<br>Notice | 安排兩位助教TA<br>Arrange two teaching assistants |
| 評量方式：<br>Grading | 1.點名成績5%(一次不到且未請假扣1點；扣滿五次該項無得分)<br>2.作業成績10%<br>3.小考(15%*2)、期中考(25%)及期末考(30%)共佔85%<br><br>1. 5% of the roll call score (1 point will be deducted for less than one time and no leave; no points will be deducted for five times)<br>2. Homework grade 10%<br>3. The quiz (15%*2), the mid-term exam (25%) and the final exam (30%) account for 85% of the total小考(15%*2)、期中考(25%)及期末考(30%)共佔85% |
| 備註說明：<br>Notes | 先修科目(Prerequisites): 電路學(一) Basic Circuit Theory (1) |