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：廖文照

Instructor:Wen-Jiao Liao

課程名稱：電磁學

Course Title：Electromagnetics

2026/11/3

課程代號： EE3201303 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	F6(EE-407) F7(EE-407) R3(EE-407)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	Understand the big ideas of electromagnetics, including: Static and dynamic electromagnetic (EM) fields, waves within and at the boundaries of media, EM radiation and propagation in space and within transmission lines, EM forces on charges, currents, and materials.
課程大綱： Outline of Lectures	Ch1: Vectors and Fields 向量與場 Ch2: Maxwell’s Equations in Integral Form 積分形式的馬克斯威爾方程式 Ch3: Maxwell’s Equations in Differential Form and Uniform plane waves in Free Space 微分形式的馬克斯威爾方程式與平面波 Ch4: Fields and Waves in Material Media 介質中的場與波
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：EMI course (Lectures in Mandarin of previous years are available online for reference) 英文授課(Youtube有先前年份中文授課影音)%
教科書： Textbooks	N. N. Rao, Elements of Engineering Electromagnetics, Sixth Edition, 2004.
參考書目： References	D. K. Cheng, Field and Wave Electromagnetics, Addison-Wesley, 1992 U.S. Inan and A.S. Inan, Engineering Electromagnetics, Addison-Wesley, 1999. C. T. Jonk, Engineering Electromagnetic Fields and Waves, Wiley, 1988.
修課須知： Notice	EMI course
評量方式： Grading	2 midterms and 1 final 考試成績(80%) Homeworks and Quizzes 平常成績(20%)[學習單與Homework]
備註說明： Notes	Basic math skills including vectors and phasors as well as partial differential equations are recommended. 具向量分析與微積分操作能力