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：李仰淳

Instructor:Yang-Chun Lee

課程名稱：電磁學

Course Title：Electromagnetics

2026/11/3

課程代號： ET3103301 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	F3(IB-401) F4(IB-401) T3(E2-102)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	This is a course to introduce the basic principles of electromagnetics to increase the knowledge of students about the electric current, electric/magnetic field, and electromagnetic wave behaviors in electronic/optoelectronic devices. The contents include Vector Analysis, Static Electric Fields, Static Magnetic Fields, Maxwell Equations Plane Waves, etc.
課程大綱： Outline of Lectures	The content of this course includes Vector Analysis, Static Electric Fields, Static Magnetic Fields, Time-Varying Fields, and Maxwell Equations. The rough course schedule is provided below: Week 1 Introduction Week 2 Vector Analysis Week 3 Vector Analysis Week 4 Static Electric Field Week 5 Static Electric Field Week 6 Solution of Electrostatic Problems Week 7 Solution of Electrostatic Problems Week 8 Midterm exam Week 9 Steady Electric Currents Week 10 Steady Electric Currents Week 11 Static Magnetic Fields Week 12 Static Magnetic Fields Week 13 Static Magnetic Fields Week 14 Time-Varying Fields and Maxwell’s Equations Week 15 Time-Varying Fields and Maxwell’s Equations Week 16 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：The course will begin by introducing how to read commonly used scientific numbers and equations in English. The course aims to encourage students to ask questions. Since electromagnetics is a fundamental core course in the electronics department, the lectures will be delivered in clear and easy-to-understand English, including the example problems in the textbook.%

教科書： Textbooks	David K. Cheng, “Field and Wave Electromagnetics”, 2nd, Prentice-Hall.
參考書目： References	David K. Cheng, “Fundamentals of Engineering Electromagnetics”, Prentice-Hall.
修課須知： Notice	The video of the class will be uploaded on MOODLE
評量方式： Grading	1. Midterm exam 30% 2. Final exam 40% 3. Homework 30% 4. Bonus points will be awarded based on classroom performance (to encourage students ask questions in English)
備註說明： Notes	It would be better to have basic knowledge about the electricity section in general physics, calculus, and vector calculations. No English requirements.