

**NTHU Electrical Engineering Department**  
**10720EE 214002 Electromagnetics (電磁學) Spring 2019**

Instructor: 陳明彰 (台達 902 分機 62436 /34079)

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Time: M3M4W2 Location: 台達 217

Electromagnetics is physics, involving the study of the electromagnetic force, a type of physical interaction that occurs between electrically charged particles. The electromagnetic force usually exhibits electromagnetic fields such as electric fields, magnetic fields, and light. Following Dr. Cheng book, we will go through 1) The Electromagnetic Model, 2) Vector Analysis, 3) Static Electric Fields, 4) Solution of Electrostatic Problems, 5) Steady Electric Currents 6) Static Magnetic Fields, 7) Time-Varying Fields and Maxwell's Equations and 8) Plane Electromagnetic Waves step-by-step.

**Prerequisite:**

General Physics, Calculus, Vector Analysis, Differential Equations

**Course Description:**

- Introduction of electromagnetics
- Electrostatics Magnetostatics
- Time-varying fields and Maxwell's equations
- Plane electromagnetic waves

**Grading Policy:**

- Quiz (weekly): 20%
- Homework: 10%
- Midterm I: 20%
- Midterm II: 20%
- Final Exam: 30%

**Teaching Method:**

Lectures

**Textbook:**

David K. Cheng, Field and Wave Electromagnetics, 2nd edition, Pearson