

# Electromagnetics

## 電磁學

### 課程大綱：

1. Static Electric Fields
2. Solution of Electrostatic Problems
3. Steady Electric Currents
4. Electrostatic Fields in Matter
5. Static Magnetic Fields
6. Static Magnetic Fields in Matter
7. Time-Varying Fields and Maxwell's Equations
8. Plane Electromagnetic Waves
9. Waveguides and Cavity Resonators
10. Applications of Electromagnetics

### 參考書籍：

1. David K. Cheng, *Field and Wave Electromagnetics*, 2nd Edition (1989).
2. David J. Griffiths, “*Introduction to electrodynamics*” 3rd Edition (1999)
3. Clayton R. Paul, “*Electromagnetics for Engineers with applications,*” Wiley Inc. (2004)
4. Eugene Hecht, Alfred Zajac, *Optics*, ADDISON-WESLEY (1998).
5. Paras N. Prasad, “*Nanophotonic*” Wiley-Interscience (2004)
6. Related Journals and Conference Proceedings

**建議先修科目：**普通物理, 微積分, 工程數學