

## 淡江大學 96 學年度第 2 學期課程教學計劃表 (格式二)

壹、科目名稱：電磁學

貳、授課老師：蕭 秀 美 (S318)

參、開課系所班級：物理系 光電組 2

肆、必選修：必 修

伍、學分數：3

陸、先修科目：

柒、教學內容及進度：

- Magnetostatics –

The Lorentz force law, The Biot-Savart law, The divergence and curl of  $\mathbf{B}$ , Amperer's law, Magnetic vector potential, Magnetostatic boundary conditions.

平時考(1)

- Magnetic field in Matter –

Magnetization, The field of a magnetized object, Linear and Nonlinear Media

期中考

- Electrodynamics –

Electromotive force, Ohm's law, Electromagnetic Induction, Faraday's law, Energy in magnetic field, Maxwell's equations

平時考(2)

- Conservation laws –

The Continuity Equation, Poynting's Theorem, Conservation of Momentum, Energy and momentum in electrodynamics

Electromagnetic Waves –

Electromagnetic Waves in vacuum, Electromagnetic Waves in matter

期末考

捌、授課方式：課堂講授及分組討論

玖、教學設備：電腦、投影機、放映機

拾、教材課本：Introduction to electrodynamics — D.J. Griffiths(3ed)

拾壹、參考書籍：Electromagnetic fields and waves — P. Lorrain and D. Corson

拾貳、成績考核方式：(暫定)

|  |            |    |   |
|--|------------|----|---|
|  | 平時成績：      | 40 | % |
|  | 期中成績：      | 20 | % |
|  | 期末成績：      | 40 | % |
|  | 讀書報告：      |    | % |
|  | 其他（討論、出席）： | 10 | % |