

普通物理 A 二 (科號: 10620PHYS114401)

General Physics A (II) – Spring, 2018

授課老師: 吳國安教授 (物理館 610 室)

Email: kuoan.wu@gmail.com

課程大綱：

The General Physics A (II) focuses on **electromagnetism** and **modern physics** which are two cornerstones besides classical mechanics and thermodynamics that were covered in the Fall semester. In this course, we will review **Electrostatics/Magnetostatics** and introduce basic concepts of **Gauss's theorem** and **Stokes' theorem** which eventually lead to the **Maxwell's equations**. We will discuss the important applications of resistors, capacitors, and inductors which include applications such as RC, LR, LC, and RLC circuits. For **electromagnetic waves**, the focus would be the propagation properties of energy and momentum, and related applications. For modern physics, we will review historic development of **quantum theory** and relevant experiments. With the recognition of the particle-wave duality of matters, we will illustrate the fundamental properties of quantum world by employing the **hydrogen atom** and 1D **Schrodinger equation** as examples.

上課時間：T3T4R3R4 (每週二、週四，早上 10:10 – 12:00)、教室：旺宏館 245

參考書目：

1. Physics (5th edition) by R. Resnick, D. Halliday, and K. S. Krane.
2. The Feynman Lectures on Physics, <http://www.feynmanlectures.caltech.edu/>
3. University Physics (2nd revised edition) by Harris Benson.

Office Hours：週三早上 10:30 – 12:00 (物理館 610 室)。

演習課：週三晚上 6:30 – 8:00 (物理館 620 室)。

評分方式：考試 75% (兩次期中考、期末考各佔 25%)，隨堂練習 15%，作業 15%，Extra Credits.

助教：周煜庭(s104022116@m104.nthu.edu.tw)、呂鈞恩(ryanlu840528@gmail.com)

其他事項：考試請務必帶無記憶功能之計算機。