

普通物理二 (科號: 10820PHYS114400)

General Physics (II) – Spring, 2020

授課老師: 吳國安教授 (物理館 610 室)

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課程大綱：

The General Physics (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**, and of course 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 and light, we will illustrate the fundamental properties of quantum world by employing the **Eitizur-Vaidman bomb tester**, **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

課程用書：筆記為主

參考書目：

1. The Feynman Lectures on Physics, <http://www.feynmanlectures.caltech.edu/>

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

演習課：週二晚上 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%)，作業 25%，Extra Credits.

助教：TBA