

Syllabus for Many-Body Physics (I)

(1) Class: 10:10-12:00 on Mondays and 09:00-09:50 on Thursdays.

(2) Required Background: Quantum Mechanics, Statistical Physics and Introductory Condensed Matter Physics. The course is targeted for the second-year master and the Ph.D. students.

(3) Textbook: Many-Body Quantum Theory in Condensed Matter Physics -- An Introduction by Bruus and Flensberg.

(4) Grades: There will be no midterm or final for this course. Homework will be assigned on weekly basis for your grades in this class.

(5) Contents: I plan to cover 8 chapters this semester, from Chapter 1 to Chapter 8 in the textbook. For your information, I will cover 7 chapters in the continuing course Many-Body Physics (II), Chap 9, 11-13, 16, 18-19.

選課小叮嚀：多體物理雖然是相當技術性的課程，但我會加入相當多物理的觀念。這也是為什麼我在思索後，選擇這本技術面較為容易，但包括許多重要觀念的教科書。因為這門課已經相當高階，沒必要考試，但是一定要做習題，否則收獲有限。最後，我要強調，雖然多體物理有一定的難度，但可運用的範圍廣闊，而且非常有力，不會有點遺憾。