

Course Syllabus 113-1

Course name: Quantum Mechanics(I)

Instructor: Chen-Pin Yeh(葉振斌)

Email: chenpinyeh@gms.ndhu.edu.tw

Office hours: Wednesday 10:00-12:00, Room B111, Tel:3739

Instruction hour: Tuesday 10:10-12:00(with 10 mins break), Thursday 11:10-12:00

Classroom:

TA: D. N. Harish, Office:B330 Email:810914305@gms.ndhu.edu.tw

Course website: <http://www.elearn.ndhu.edu.tw/moodle>

(announcements and homeworks will be posted here)

Instruction goals: To understand the basic rules and techniques of quantum mechanic.

Pre-requisite: Undergraduate level quantum mechanics and electromagnetism

Grading:

Attendance,Class Performance:0%

(Bonus points and it may effect the fine-tuning of your total grade)

Homework:20%(The exams are open-homework)

Midterm:40%(November 15, 2024 Tuesday 10:00-13:00)

Final exam: 40% (December 31, 2024 Tuesday 10:00-13:00)

Textbook:

Lectures on Quantum Mechanics(2nd edition), S. Weinberg

References:

1. Modern Quantum Mechanics, J. Sakurai
2. Quantum Mechanics (2nd edition), N. Zeteli
3. Quantum Mechanics, Greiner
4. Principle of Quantum Mechanics(2nd edition), Shankar

Schedule : (a tentative plan)

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Week	Topics
1(9/10,9/12)	Course introduction, History:Early days of quantum mechanics
2(9/19)	No class on 9/17, History: Wave mechanics
3(9/24,9/26)	History: Wave mechanics
4(10/1,10/3)	History: Wave mechanics
5(10/8)	No class on 10/10, History: Matrix mechanics
6(10/15,10/17)	History: Matrix mechanics
7(10/22,10/24)	Review: Harmonics oscillators
8(10/29,10/31)	Review: Harmonics oscillators
9(11/5)	Midterm, No class on 11/7
10(11/12,11/14)	Hydrogen atom
11(11/19,11/21)	Angular momentum
12(11/26,11/28)	Angular momentum
13(12/3,12/5)	General principle of quantum mechanics:Operators
14(12/10,12/12)	General principle of quantum mechanics:Observables
15(12/17,12/19)	Symmetry
16(12/24,12/26)	Symmetry
17(12/31)	Final

Note:

1.Homeworks will be posted on the e-learning website roughly each week. Please hand in to me on the class one week later. No late homework is allowed, except noticing me for the reason before the due date.

2.Homeworks before each exam will be returned to you on the day of the exam. And you need to return your homeworks together with the exam answer sheet to me after each exam.

3.Cheating in exams will result in zero grade.

4.Since the class is in English, it is important to do pre-study before the class. And if you don't understand my English speaking, please don't hesitate to ask.