

## Syllabus(2025-1st semester)

Course	Quantum Mechanics I	Department	Physics	Office Hours	화4교시 목5교시
Course No. and Class	G11970-01	Hours	3.0	Academic Credit	3.0
Professor	Changrim Ahn		Office		
Telephone			E-MAIL		
Value of competence			Keyword		

### 1. Course Description

Quantum Mechanics I  
(My home page: [alps.ewha.ac.kr](http://alps.ewha.ac.kr))

### 2. Prerequisites

Undergraduate Quantum Mechanics

### 3. Course Format

Lecture	Discussion/Presentation	Experiment/Practicum	Field Study	Other
100%	0%	0%	0%	0%

- explanation of course format :

### 4. Course Objectives

Fundamental formulation and concept of quantum mechanics

### 5. Evaluation System

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Midterm Exam	Final Exam	Quizzes	Presentation	Projects	Assignments	Participation	Other
50%	50%	0%	0%	0%	0%	0%	0%

\* Evaluation of group projects may include peer evaluations.

- explanation of evaluation system

Decided only by written exams

### 6. Required Materials

J.J. Sakurai, Modern Quantum Mechanics

### 7. Supplementary Materials

### 8. Optional Additional Readings

**9. Course contents**

Week	Date	Topics, Materials, Assignments
Week 1	2025/03/04(TUE)	Chap 1. Fundamental Concepts kets and bras, change of basis
Week 2	2025/03/11(TUE)	Chap 1. Fundamental Concepts position and momentum basis
Week 3	2025/03/18(TUE)	Chap 2. Quantum Dynamics time evolution and Schrodinger equation
Week 4	2025/03/25(TUE)	Chap 2. Quantum Dynamics analytic and numerical solutions
Week 5	2025/04/01(TUE)	Chap 2. Quantum Dynamics path integrals
Week 6	2025/04/08(TUE)	Chap 2. Quantum Dynamics potential and gauge transformation
Week 7	2025/04/15(TUE)	Mid Term exam
Week 8	2025/04/22(TUE)	Chap 3. Theory of Angular Momentum Rotations, Euler angles
Week 9	2025/04/29(TUE)	Chap 3. Theory of Angular Momentum Angular momentum operators and eigenvectors
Week 10	2025/05/06(TUE)	Alternative Holiday - Buddha's Birthday
Week 11	2025/05/13(TUE)	Chap 3. Theory of Angular Momentum Tensor operators
Week 12	2025/05/20(TUE)	Chap 4. Symmetry in Quantum Mechanics Symmetries
Week 13	2025/05/27(TUE)	Chap 4. Symmetry in Quantum Mechanics Discrete symmetries: Parity
Week 14	2025/06/03(TUE)	Chap 4. Symmetry in Quantum Mechanics Time reversal
Week 15	2025/06/10(TUE)	Final exam
Makeup Classes 1	2025/05/06(TUE)	Chap 3. Theory of Angular Momentum (Zoom recorded lecture) Addition of Angular momentum

**10. Course Policies**

\* For laboratory courses, all students are required to complete lab safety training.

**11. Special Accommodations**

\* According to the University regulation #57, students with disabilities can request special accommodation related to attendance, lectures, assignments, and/or tests by contacting the course professor at the beginning of semester. Based on the nature of the students' requests, students can receive support for such accommodations from the course professor and/or from the Support Center for Students with Disabilities (SCSD).

\* The contents of this syllabus are not final—they may be updated.