

## Quantum mechanics I    Fall 2019

### Syllabus:

Week1 Fundamental concepts: uncertainty and superposition(I)

Week2 Fundamental concepts: uncertainty and superposition (II)

Week3 Hilbert space and operators (I)

Week4 Hilbert space and operators (II)

Week5 Hilbert space and operators (III)

Week6 Two level systems (I)

Week7 Python class/Discussions

Week8 Two level systems (II)

Week9 Midterm exam/project mid-term report

Week10 Two level systems (III)

Week11 Equation of motion (I)

Week12 Equation of motion (II)

Week13 Equation of motion (III)

Week14 simple harmonic oscillators(I)

Week15 simple harmonic oscillators(II)

Week16 simple harmonic oscillators(III)

Week17 Discussions

Week18 Final exam

Textbook: K. Gottfried and T-M. Yan, Quantum mechanics: fundamentals,  
(2ed., GTCP, Springer, 2003)(ISBN 0387955763)

Ref: J.J. Sakurai, Modern Quantum Mechanics, (2ed., Addison:Wesley 2011)

Grading: Midterm Exam/project on quantum computation, Final Exam,  
Homework

Lecturer: Watson Kuo(Room 517)

Teaching Assistant: Mr. Y. H. Chang 張譽瀚, PhD student (Room 313)

Mr. Raveendharan Sundaram, PhD student (Room 313)

Office hours: Wed 13:00~15:00. Appointment in advance is required.