

PHYSICS 606 - Quantum Mechanics

Fall Semester, 2018, MW 5:45-7:00 pm, MPHY 213

Instructor: Prof. Siu A. Chin
Office: MPHY 407
Hours: T 2-4 pm, W 3-4pm and by appointments
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Suggested textbook: *Lectures on Quantum Mechanics* by G. Baym.

Recommended Reference:

Other QM text by Gottfried, Messiah, Sakurai, or Merzbacher

Grades: 12 weekly homeworks: 60%; two midterms 20% + one final 20% = 40%.
A: 85-100, B:70-84, C 55-69, D 40-54, F below 40.

Course Syllabus:

1 :	State vectors	Chapter 3
2 :	Path Integrals	Chapter 3
3 :	Potential problems	Chapter 4
4 :	Creation operators	Chapter 4
5 :	Operator equations of motion	Chapter 5
6 :	Midterm I Angular momentum	Chapter 6
7 :	Central potential	Chapter 6,7
8 :	Hydrogen and atoms	Chapter 7,9
9:	Potential scattering	Chapter 9
10:	Perturbation theory	Chapter 11
11:	Midterm II Perturbation theory	Chapter 11
12:	Time-dependent Pert. theory	Chapter 12
13:	EPR entanglement, Bell's theorem	
14:	Quantum information, computing	
15:	Final	

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