

◇ ◇ ◇ COURSE SYLLABUS ◇ ◇ ◇

Module	Topic	Chapter [†]
I	<i>The Dawn of the Quantum Theory</i>	1
	Math Review: Complex Numbers	A
	<i>The Classical Wave Equation</i>	2
	Math Review: Probability and Statistics	B
	<i>The Schrödinger Equation & Particle in a Box</i>	3
	Math Review: Vectors	C
	<i>Postulates & Principles of Quantum Mechanics</i>	4
	Math Review: Spherical Coordinates	D
	<i>Model Systems: The Harmonic Oscillator & Rigid Rotator</i>	5
	Prelim #1 (10/15/2026)	—
II	<i>The Hydrogen Atom</i>	6
	Math Review: Determinants	E
	<i>Approximation Methods</i>	7
	<i>Multi-Electron Atoms</i>	8
	<i>The Chemical Bond: Diatomic Molecules</i>	9
	<i>The Chemical Bond: Polyatomic Molecules</i>	10
	Prelim #2 (11/17/2026)	—
III	<i>Computational Quantum Chemistry</i>	11
	<i>Molecular Spectroscopy</i>	13
	Final (TBD)	—

[†]Chapters correspond to reading assignments from *Physical Chemistry: A Molecular Approach* by Donald A. McQuarrie and John D. Simon. Chapters in blue font correspond to “MathChapter” reading assignments in the textbook.

NB: This is a rough outline (that is subject to change) of the topics that will be covered this semester.