The midterm and final will be primarily conceptual in nature. No calculators will be allowed.

It is entirely acceptable and somewhat encouraged to work with your peers on the weekly problem sets. The problem sets will be assigned on Mondays and are due the following Monday – late assignments will not be accepted.

In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact SAS, the office of Disability Services on campus. SAS works with students and faculty in an interactive process to explore reasonable and appropriate accommodations, which are communicated to faculty in an accommodation letter.   All students are strongly encouraged to meet with their faculty to discuss the accommodations they plan to use in each course. A student's accommodation letter lists those accommodations that will not be implemented until the student meets with their faculty to create a plan.
Contact SAS:
A170 Living/Learning Center;
802-656-7753;
access@uvm.edu
www.uvm.edu/access

Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes.   You will be permitted to make up work within a mutually agreed-upon time. https://www.uvm.edu/registrar/religious-holidays

Week Number	Starting Date	Class Numbers	Topics	Reading
1	8/27	1-3	Introduction to QM, de Broglie, Bohr, uncertainty, classical waves, wavefunctions, operators, probability	Chs. 1-2
2	9/5	4-5	Particle in a box, correspondence principle, postulates of QM, harmonic oscillator	Chs. 3-5
3	9/10	6-8	Hermite polynomials, Morse potential and anharmonicity, particle on a ring, angular momentum, spherical harmonics	Chs. 5-6
4	9/17	9-11	Spectroscopy, hydrogen atom	Chs. 13 & 6
5	9/24	12-14	Orbitals, variational method, multi-electron atoms, perturbation theory	Chs. 6-8
6	10/1	15-17	Pauli exclusion, Slater determinant, Hartree-Fock, MO theory, self-consistent field	Chs. 8-9
7	10/10	18-19	LCAO and hybrid orbitals, modern computational methods	Chs. 9-11
8	10/15	20-22	Introduction to statistical mechanics, first and second laws of thermodynamics, state functions, Boltzmann statistics, molecular energy levels.	Chs. 17-21
9	10/22	23-25	Partition functions and their evaluation	Chs. 17-21
10	10/29	26-28	Partition functions and thermodynamic parameters, internal energy, heat capacity, equipartition theorem.	Chs. 17-21
11	11/5	29-31	Equilibrium and chemical potential.	Ch. 26
12	11/12	32-34	Boltzmann distributions, kinetic theory of gases. Kinetics and rate laws.	Ch. 27
13	11/26	35-37	Kinetics, rate constants, transition state theory, Arrhenius equation. Review.	Chs. 28-29
14	12/3	38-40	Modern topics in physical chemistry.	TBA