	FCH 361 Spring 2020	
	Reading assigments from the **9th Edition** of Atkins and de Paula	
Monday	**Wednesday**	**Friday**
1/13 INTRODUCTION	1/15 21.2-4 Basics of Rate Laws	1/17 21.5 Basics of Rate Laws, Arrhenius
NO CLASS	1/22 21.6-7 Elementary Reactions	1/24 21.2.d, 21.7 Pseudo-First Order and Steady State
1/27 Pseudo-First Order and Steady State	1/29 **Homework #1** 22.5 Arrhenius and Thermodynamics	1/31 22.1-2 Collision Theory & Diffusion Control
2/3 **Homework #2** REVIEW	2/5 **EXAM I**	2/7 7.1-2 Failures of Classical Mechanics
2/10 7.3-5 The Wavefunction and Probability	2/12 7.6-7 The Wavefunction and Probability	2/14 8.1 Basics of Particle in a Box
2/17 **Homework #3** 7.5-7, 8.2 Meaning of Particle in a Box	2/19 Meaning of Particle in a Box	2/21 8.4-5 Basics of Simple Harmonic Oscillator (SHO)
2/24 12.9-11 Meaning of SHO	2/26 Meaning of SHO	2/28 **Homework #4** REVIEW
3/2 **EXAM II**	3/4 8.3 Classical versus Quantum Mechanics	3/6 8.3 12.2, 12.8-10, 12.11 Tunneling, Selection Rules
3/9 12.2 Origin of selection rules for SHO and 1-D box	3/11 12.13-15 Vibrations of Polyatomic Molecules	3/13 **Homework #5** 12.3-5 Basics of Rotational Spectra
Enjoy	**Spring**	**Break!**
3/23 12.11 Rotational Transitions	3/25 10.3 Molecular Orbital (MO) Theory: H_2^+	3/27 10.4 MOs for Homonuclear Diatomics
3/30 MOs for Homonuclear Diatomics	**4/1 Homework #6** **REVIEW**	4/3 **EXAM III**
4/6 10.5 Heteronuclear Diatomics	4/8 MOs from quantum calculations	4/10 13.2c, 13.3-6 Electronic Spectroscopy
4/13 **Homework #7** 15.1-2 Statistical Mechanics - Probability & populations	4/15 16.1-2 Statistical Mechanics for molecules	4/17 16.3 Statistical Mechanics - some theory
4/20 22.4-5 Transition State Theory	4/22 Transition State Theory	**4/24 Homework #8** **REVIEW**
4/27 **EXAM IV**		
	(tentative) Thursday 4/30	**FINAL EXAM** 3:00 - 5:00 p.m.