

General Chemistry I Morning Lecture Schedule, Sections B1–B5 Summer 2023

All readings and assignments are in “*Chemistry: Structure and Properties*” by Nivaldo J. Tro, 2nd edition.

Exact pace of topics and associated problems subject to change, as determined in lecture.

BOLDED questions indicate quiz/exam-caliber questions.

	Date	Topic	Textbook	Suggested Problems
1	T May 30	Course intro. Significant figures, units, dimensional analysis	E.1-E.9	Chapter E: 21,23,25,27,31,33,35,37,39,41,43,47,49, 51,53,55,57,61,63,65,67,69,71,73,85,93,95,103
2	W May 31	Classification of matter, model of the atom, isotopes	1.1-1.9	Chapter 1: 37,39,41,47,49,51,57,63,67, 71,77,79, 97,111,113,117
3	Th June 1	Mole concept, nature of light, photoelectric effect	1.10,1.11 2.1-2.2	Chapter 1: 85, 89,91,93,95,103,105,107,109 Chapter 2: 37,39,41, 43,73,78,85,89,97,100
4	M June 5	Bohr model, line spectra, wave-particle duality, quantum numbers, orbitals	2.3-2.6	Chapter 2: 51, 53,57,59,61,67,69,71,81,104
5	T June 6	Electron configurations, structure of the periodic table	3.1-3.5	Chapter 3: 45,49,51,53,55,57,59,61,63,75,77,97
6	W June 7	Periodic trends: ionization energy, atomic radius, electron affinity, metallic character	3.6-3.9	Chapter 3: 71, 73,81,83,85,87,89,91,93,103
7	Th June 8	Ionic and covalent bonding, simple Lewis structures, polyatomic ions	4.1-4.8	Chapter 4: 29,33,35,45, 47,49,51,53,55,57,59,65, 67,69
M June 12		Exam I 9:00–10:30 AM (Chapters E.1–4.8)		No recitations
8	T June 13	Percent composition, empirical formulas, combustion analysis	4.9-4.11	Chapter 4: 73,75, 83,85,87,89,93,95,97,99,101,103, 105,107,109,115,117,121,123,125,127,131,133
9	W June 14	Electronegativity, bond polarity, Lewis structures, formal charge, resonance, exceptions to the octet rule	5.1-5.5	Chapter 5: 23,27, 29,31,33,35,37,39,41,43,45,47, 49,79,81,83,85,87,97
10	Th June 15	Bond energy/bond length, VSEPR, polarity of molecules	5.6-5.10	Chapter 5: 51,53,55,57,59,61,63,67,69,71,73
11	M June 19	Hybridization, sigma and pi bonding	6.1-6.3	Chapter 6: 25,29,31, 33,35,37,39,55,57,59
12	T June 20	Balancing chemical equations, stoichiometry, limiting reactant, percent yield	7.1-7.5	Chapter 7: 15,17,19,23,25,27,29,31,33,35,37,39, 41,43,45,47,49,51,53,55,57,59,69,71,75,79
13	W June 21	Solutions, electrolytes, molarity, dilution problems, net ionic equations, precipitation reactions	8.1-8.6	Chapter 8: 21, 23,27,29,31,33,35,37,39,41,45,79,95

14	Th June 22	Acid-base reactions, redox reactions, energy, First Law of Thermodynamics, heat, work	8.7-8.9 E.6, 9.1-9.4	Chapter 8: 47,49,51,53,55,57,59,61,63,67,69,71,81,91,93 Chapter 9: 31,33,35,37, 41,43,45,47
M June 26		Exam II 9:00–10:30 AM (Chapters 4.9–8.6)		No recitations
15	T June 27	Thermal energy transfer, calorimetry, enthalpy, calculating ΔH using Hess's Law, bond energies, standard heats of formation	9.5-9.10	Chapter 9: 49, 51,53,55, 59,61,63,67,69, 71,73,75, 77,79,81,83,85,89,99,113,119
16	W June 28	Nature of gases, measurement of pressure, gas laws, ideal gas equation, gas mixtures, partial pressure	10.1-10.7	Chapter 10: 25,27,31,33, 35,37,39,41,45,47,51,55, 57,59,63,65,69,95,97,99
17	Th June 29	Kinetic molecular theory, relative diffusion rates, gas stoichiometry, liquids, nature of intermolecular forces	10.7-10.10 11.1-11.3	Chapter 10: 71, 73,75,77,79,81,83,89,105,119,125, 133 Chapter 11: 35,37
18	M July 3	Boiling point, vapor pressure, heating curves, phase diagrams	11.4-11.9	Chapter 11: 39,41,43,55,57,59,65,67,69,71,73,83
	T July 4	NO CLASS – Happy 4th of July!		
19	W July 5	Catch-up and Review for the Final		
	Th July 6	CUMULATIVE Final Exam 8:00–11:00 AM		