CHEM 1127
SUBJECT TO CHANGE

WEEK	DATES	PROBLEM SET/LAB **E = Experiment**
1	8/29 – 9/2	Online homework: **None**
		Lecture: Intro/Chapter 1
		Lab: • **No lab the first week**
2	9/6 – 9/9	*Online Homework:* **Online homework practice assignment (not graded)**
		Lecture: Chapter 2
		Lab: No lab for the second week Make sure to watch the safety video and complete the online safety quiz
		Lecture will not meet on Labor Day
3	9/12 – 9/16	*Online homework* ***1127 HW 1 (Chapter 1 and 2)***
		Lecture: Chapter 2/Chapter 3
		Lab: Check in and • **Experiment 1** Remember to bring your goggles to lab.
4	9/19 – 9/23	Online Homework: **1127 HW2 (Chapter 3)**
		Lecture: Chapter 3
		Lab: Experiment 2
5	9/26 – 9/30	Online Homework: **1127 HW3 (Chapter 4 up to but not including 4.8)**
		Lecture: Chapter 4 **Exam 1 (chapter 1-3) 9/29 or 9/30**
		Lab: Experiment 3
6	10/3 – 10/7	Online Homework: **1127 HW4 (finish chapter 4)**
		Lecture: Chapter 5
		Lab: Experiment 4
7	10/10 – 10/14	Online Homework: **1127 HW5 (Chapter 5.1 - 5.3)**
		Lecture: Chapter 5
		Lab: Experiment 5

8	10/17 – 10/21	Online Homework: **1127 HW6 (end of chapter 5)**
		Lecture: Chapter 6 **Exam 2 (chapter 4-5) 10/20 or 10/21**
		Lab: Experiment 6
9	10/24 – 10/28	Online Homework: **1127 HW7 (6.1-6.2)**
		Lecture: Chapter 6/Chapter 7
		Lab: Experiment 7
10	10/31 – 11/4	Online Homework: **1127 HW8 (end of chapter 6)**
		Lecture: Chapter 7
		Lab: Experiment 9
11	11/7 – 11/11	Online Homework: **1127 HW9 (chapter 7)**
		Lecture: Chapter 8
		Lab: TBA
12	11/14 – 11/18	Online Homework: **1127 HW10 (chapter 8.1 - 8.11)**
		Lecture: Chapter 8/Chapter 9
		Lab: *TBA*
13	11/28 – 12/2	Online Homework: **1127 HW11 (End chapter 8 and 9)**
		Lecture: Chapter 10 **Exam 3 (chapter 6-9) 12/1 or 12/2**
		Lab: Experiment 8
14	12/5 – 12/9	Online Homework: **1127 HW12 (chapter 10)**
		Lecture: Finish Chapter 10 and review for the final exam
		Lab: Check out
		FINAL EXAM: TBA (Chapter 1-10)

Suggested problems list Chemistry 1127

Chapter 1	Practice problems from Chapter 1
Phases	83
Classification of matter (mixture vs compound)	85, 87
Physical Properties	89, 91
Chemical Properties	89, 91
Measurement (uncertainty)	37
SI units and metric conversions	43
Accuracy vs Precision	23
Sig Figs	33, 39
Density	75, 79, 81
Dimensional Analysis	43, 45, 51, 101, 61,63

Chapter 2	Practice problems from Chapter 2
Atomic structure	25, 49
Isotopes	61, 67, 69
Diatomic molecules	Have No Fear Of Ice Cold Bears (H_2,N_2,F_2,O_2,I_2,Cl_2,Br_2)
Chemical formulas (molecular, empirical)	41
Percent composition	39
Periodic table	55, 29
Molecular compounds	Non-metal and non-metal
Ionic compounds	Metal and non-metal
Chemical Nomenclature	75, 79, 87
Names of Polyatomic ions	Table 2.5
Names of Acids	Tables 2.7 and 2.8

Chapter 3	Practice problems from Chapter 3
Calculate MW	25, 47
Isotopes	39, 43
Understand what a mole is	31, 49
Percent composition	31, 77, 161
Empirical Formula	29, 91
Molecular Formula	91, 95
Balancing chemical equations	97, 101, 99, 103
Reaction Stoichiometry	111, 115
Combustion Analysis	179
Limiting Reagents	123, 125, 127
Percent Yield	129, 131

Chapter 4	Practice Problems from Chapter 4

Aqueous solutions: Electrolytes	27
Molarity (moles/liters)	31,33
Dilution ($M_1V_1=M_2V_2$)	43
Classifying reactions	Acid base, precipitation, or redox
Net ionic equations	53
Precipitation	49,51,55,65 Be able to use solubility chart
Acid/Base	71,79,83
Reduction/Oxidations (redox)	89
Assigning Oxidation numbers	85
Balance Redox with half reactions	91,93
Limiting reagent used in reactions	67
Titration	83, 67

Chapter 5	Practice Problems from chapter 9
Gas pressure in open and closed manometer	43, 45
PV=nRT relationships	25
PV=nRT plug and chug	47,49, 59, 65
Stoichiometry of ideal gases	29, 71
Partial pressure of gas mixtures	87, 91, 93
Collect gas over water	99
Kinetic Molecular Theory	115

Chapter 6	Practice Problems from end of Chapter 6
Heat, work, and energy	25, 33
Exothermic vs endothermic	19
Measuring heat (q or ΔH)	57
Calorimetry	65,67
Heat capacity (C) vs specific heat capacity (c)	73
Thermal equilibrium	59, 63
State vs Path functions	13
Enthalpy of combustion	75
Enthalpy of formation ($\Delta H°_f$)	83
Calculate $\Delta H°_{rxn}$ from $\Delta H°_f$	89, 91
Hess's Law	75, 79

Chapter 7	Practice Problems from end of Chapter 7
Determine frequency and wavelength	45, 51

Energies of electrons in Bohr model	63
Bohr model electron transitions	65, 67
Quantum numbers (n,l,m_l,m_s)	33, 79
Pauli Exclusion Principle	85
Electron configuration of atoms and ions in the ground state	91, 97, [Chapter 21: Problem 25]
Molecular orbital types (s,p,d,f)	155
Degenerate Orbitals	107
Valence electrons	103
Periodic table trends (atomic radius, electron affinity, ionization energy)	111, 113, 123, 131, 159
Variation in ionic radii	115

Chapter 8	Practice problems from chapter 8
Ionic bonding/ Covalent bonding	19, 39
Electronegativity	31
Electron configuration of ions	49, 51
Lewis dot structures	87, 89, 91
Formal charge	103, 105
Resonance	95, 99
Bond strength	101
Electron Pair Geometry	113, 115
Molecular Structure	117, 119, 121
Polarity and dipole moment	123, 125

Chapter 9	Practice problems from chapter 9
Hybridization	29, 31, 33
Sigma and pi bonds	37, 43
Multiple bonds	15
Molecular orbital diagrams	61, 63

Chapter 10	Practice problems from chapter 10
Intermolecular Forces	37, 39, 41
Phase Diagrams	105, 107
Crystal Unit cells	
Heating curves and phase changes	
Clausius-Clapeyron Equation	